VOCATIONAL EDUCATIONAL POSSIBILITIES FOR CARTER COUNTY, OKLAHOMA

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By

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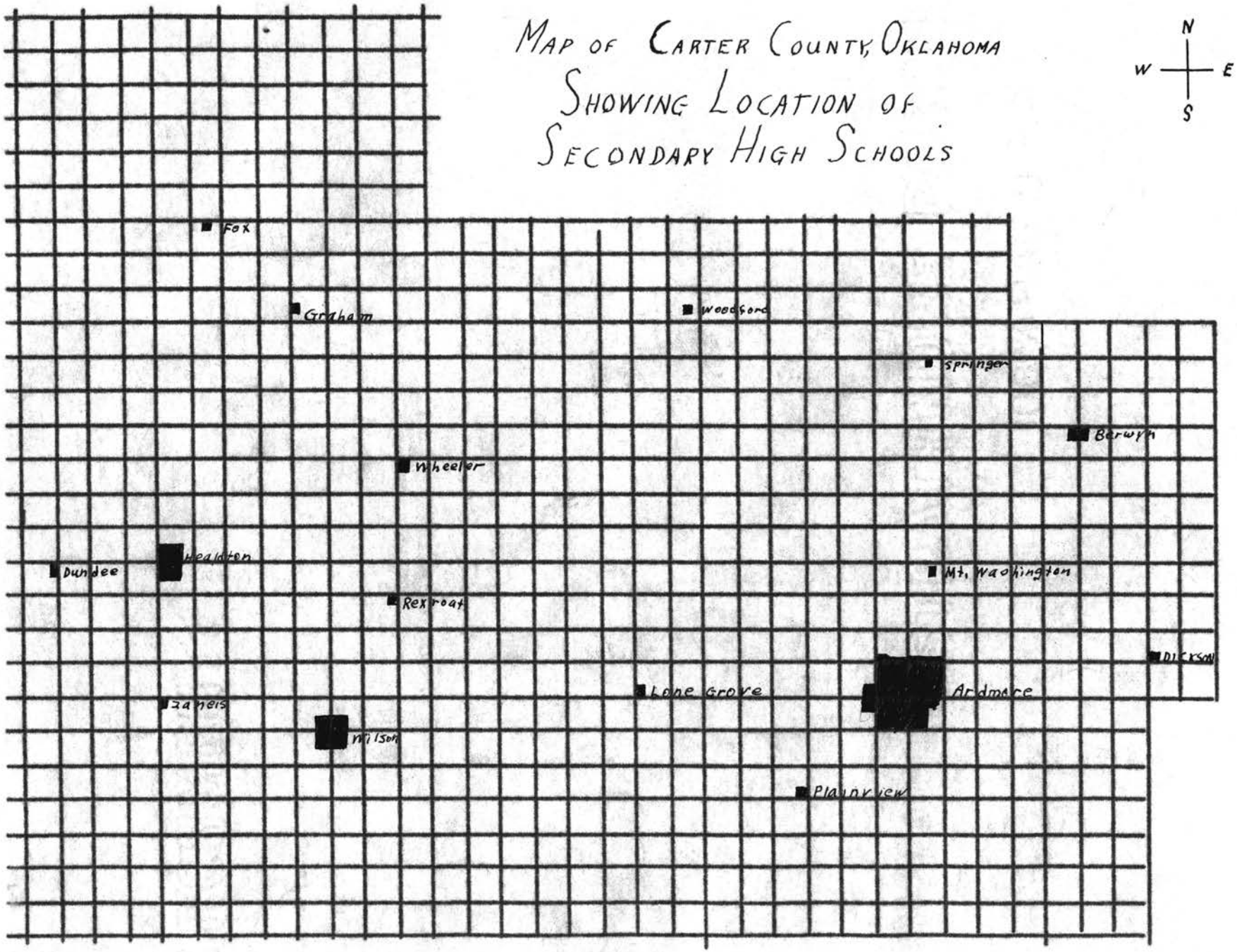
Map of Carter County, Oklahoma
Showing Location of
Secondary High Schools
N
W
E
S
Fox
Graham
Woodford
Springer
Berwyn
Wheeler
Healdton
Dundee
Mt. Washington
Rexroat
Dickson
Lone Grove
Ardmore
Zaneis
Wilson
Plainview

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CHAPTER I

INTRODUCTION

Industrial and vocational education has been organized administratively under two plans which differ in their fundamental aims. Advocates of the first plan stress the avocational value of shop and related training, while those favoring the second plan, believe that the emphasis should be placed upon specific occupational training. Schools holding classes of the first type do not, in the majority of cases, offer students sufficient time, nor do they have suitable equipment, nor properly qualified teachers to meet occupational training requirements. It is not fair to conclude that this training is not of value, nor that it is not meeting its legitimate aims and objectives. It simply means that such a program stresses the avocational and general educational aims rather than the specific aim of apprentice occupational training.

In the second division, or that of occupational education, the curriculum must meet the specifications required under the Smith-Hughes law. This educational program demands time allotment, shop equipment, and teacher qualifications as specified under the Federal Vocational Education Act of 1917.

In summing up these aims, it is fair and logical to state that it becomes the responsibility of the local community to determine which of these aims best fits its local needs. In most cases, both are classified as essential, and

in all cases both are desirable if the community is of sufficient size to warrant their support.

The writer has been interested in learning of the advisability and possibilities of offering some type of vocational work in Carter County, Oklahoma and for that reason has made this study. Another reason for making this study was to help the writer qualify for future work in Trade and Industrial Education.

This study consists of an inquiry into the possibilities of expanding the educational programs of Carter County through the organization of curricula in industrial vocational education.

At the present time there are only two schools in the county offering any type of industrial work in high school. Dundee and Ardmore offer general education classes in wood work. Dundee offers two years of elective work and Ardmore offers one year.

The writer believes this to be a situation warranting further analysis and study to learn of the need for, and attitude toward, expanding industrial education offerings. Hence, this study was made to acquaint the people in the county with the need for, and the possibilities of, expanding the present industrial educational offerings into a vocational program suited to the county and to learn their attitudes toward such a program.

CHAPTER II

AIMS AND SCOPE OF THE STUDY

The primary purpose of this survey is to determine the types of vocational education that would be desirable to meet the needs of Carter County, and to overcome, to some degree, the present shortage of skilled and semi-skilled labor. Another is to study the possibilities of offering sufficient training to local youth so they might stand an equal chance with outsiders to enter occupations that require skill and that constitute the better levels of industrial employment. Closely coupled with this was the aim of upgrading workers already employed so they might be able to retain their places and adjust themselves to industrial changes brought about by new developments of science. A secondary aim is to secure information about the industries in the county, and more especially to establish contacts between school and industry that would be of value in giving the youth better vocational opportunities. As the survey progressed, it seemed evident that the greatest gain to all concerned was that this study become a medium, or a mode of contact, between all of the agencies in the community which are naturally interested in the welfare of the youth. A more complete presentation of the aims and scope of this study is given below:

1. To learn the present educational offerings in the high schools of Carter County, Oklahoma.

2. To learn the programs that graduates have followed after completing high school.
3. To secure a list of present employment opportunities in Carter County.
4. To learn the correlation between courses studied in school and subsequent employment of graduates.
5. To learn the attitudes of laymen, superintendents, and school board members toward the advisability of establishing a vocational education program in the county.
6. To determine the changes needed in the present curricula if an adequate vocational education program is to be organized in the county.

Scope of the Study. Since this study was not completed before the schools were out in the spring, the writer was not able to obtain the desired information from all of the superintendents in the county. Some of the superintendents were in summer school and others were on their vacations. This study is limited to data received from superintendents and school board members from nine of the sixteen secondary high schools in the county and from reports from laymen throughout the county.

The scope of the study is also limited to suggesting types of programs suited to the county as a whole and to recommending types of programs suited to Ardmore and Healdton. The study also includes recommendations for further

investigation of this problem in Carter County to determine the types of programs needed in the other high schools.

CHAPTER III

METHODS EMPLOYED IN SECURING INFORMATION USED IN THIS STUDY

A combination of the interview and questionnaire methods was used in this study. The questionnaires were made out by the writer and taken to the persons from whom information was desired. In that way the writer was able to explain the questionnaires and to present types of vocational educational programs which made it possible to secure more reliable information.

Many educational authorities have stated that the questionnaire is a weak method of research and that it should not be used except when no other method is suitable. In connection with this Schluter[1] states:

> The questionnaire is often a useful, but also a much used and generally abused, method of collecting research data. A proper and efficient use of questionnaires can invariably be measured by the number of completed returns.

Another authority in educational research, Dr. C. C. Crawford[2], Professor of Education, University of Southern California, says:

> According to some people, the most important piece of advice about questionnaire technique would be to avoid it entirely. It is quite true that it has been

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[1]Schluter, W. C. How to Do Research Work. Prentice-Hall, Inc., 1927, pp. 84-85.

[2]Crawford, C. C. The Technique of Research in Education. The University of Southern California, 1928, p. 177.

> seriously and frequently abused, and that its use by untrained and uncritical workers has brought it into general disfavor. It should not be used as a lazy substitute for other methods, nor to collect facts that are available in print or in official records which are reasonably accessible. The proposed questionnaire should be clearly capable of producing the desired results or of actually solving the problem before being undertaken, and there should be no other possible way of getting the desired information.

The only ways that the information could have been secured for this study were through the use of the interview and questionnaire methods.

Dr. Douglas Waples[3], Professor of Educational Method, Graduate Library School, University of Chicago, and Dr. Ralph W. Tyler, Associate Professor of Education, Ohio State University in their book on research seem to be more in favor of the written statement.

> The written statement comes between the personal interview and the check-list with respect to the definiteness of the data obtained. The interview makes for greater variety and abundance of data: the check-list confines the responses to a prepared list of items and hence has the great advantage of omitting all data that are irrelevant. The written statement, submitted in reply to one or more specific questions, may have the advantages or the disadvantages of both, depending upon how it is used. That is to say, the written statement may be obtained from a larger number of persons than are accessible for personal interview and more abundant data may be obtained than the check-list provides.

The same authors[4] make the following statement about the personal interview:

> The interview is the simplest means of obtaining information possessed by other persons. Its reliability

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[3]Waples, Douglas and Tyler, R. W. Research Methods and Teachers' Problems. The MacMillian Co., 1930, p. 533.

[4]Ibid., p. 519.

> varies more widely than that of any other technique. At one extreme is the interview as conducted by the unscrupulous journalist who plies his subject with questions asked at random in the hope of drawing forth some remark on which to hang a story. At the opposite extreme is the highly reliable technique of systematic interviewing which represents an essential instrument of research.
>
> Since only persons can be interviewed, it is evident that the types of data to be secured are facts, opinions, judgments, and attitudes.

The statements of the above mentioned authors seem to justify the writer's use of the methods employed in making this study.

Questionnaires to Superintendents to Determine the Present Educational Offerings

Questionnaires were taken to the superintendents to obtain information concerning:

(a) The number of high school teachers employed per school.

(b) The number of students of high school age living in each district.

(c) The number of high school students enrolled in each school in the school year 1936-1937.

(d) The number of freshmen enrolled in each school during the past six years.

(e) The number of high school graduates in each school the past six years.

(f) The number of juniorsenrolled in each school in the school year 1936-1937.

(g) The number of sophomores enrolled in each school in the school year 1936-1937.

(h) The courses offered in each high school at the present.

(i) The number of graduates from each school who have entered business and industry and the types of work entered.

(j) The number of graduates from each school who have gone to college the past five years.

(k) The opinions of each superintendent concerning possibilities for vocational education in the county.

The information furnished by the superintendents is summarized in Tables I, II, III, with the exception of the superintendents' opinions which are mentioned later.

Questionnaires to Laymen for Employment Opportunities and Attitudes Toward an Expanded Program

Questionnaires were prepared and taken to employers in industry, business and agriculture to determine the number of employment opportunities which are available for young people and to learn the attitudes of these men regarding improvements in the present educational programs. A summary of the information furnished by the superintendents was explained to these business men and others. The information furnished by the employers is summarized in Table IV.

Questionnaires to School Board Members to Learn Their Attitudes Toward Expanding the Present Program

After having summarized the results of the studies made of present school courses offered, superintendents' opinions, employment possibilities, and laymen's attitudes toward expanding the present programs; the results were explained to school board members of the nine high schools and they were asked to give their opinions toward expanding the present programs in their respective schools. Some of their statements are found in the succeeding chapter.

Bibliographical Aids

As a means of supplementing the opinion of people contacted in this study regarding vocational education, the works of several leaders in educational fields were studied to help show the correlation of their ideas with these of people in the communities included in the survey. These are commented on in the next chapter.

All of the men referred to are leaders in their respective fields of education. They have spent many years dealing in the education of youth and, therefore, should have a knowledge of the needs for better educational programs.

CHAPTER IV

FINDINGS OF THE STUDY

1. Present School Offerings in Carter County

All of the schools included in this study have the 8-4 plan with the exception of Ardmore which has the 6-3-3 plan. The ninth grade of Ardmore, which is included in their junior high school, is not included in this report.

The courses offered by every high school are: advanced arithmetic, algebra II, American History, biology, democracy, English, plane geometry, and World history.

The schools that have the ninth grade in high school offer Modern history, general science, and algebra I.

Art, French, commercial law, Latin, physics, physiology, psychology, sociology, solid geometry, Spanish, theatre arts, trigonometry, vocational guidance, and wood work are offered by only a few of the schools.

All of the above are classed as general education courses with the exception of vocational guidance and wood work. Vocational guidance is offered in only one school and wood work is offered by two of the nine schools included in this report.

The following courses are required for graduation in all of these schools: four years of English, two years of mathematics, four years of history, and one year or biology. They are designed primarily for college entrance.

The courses offered by the nine high schools are listed in Table I.

TABLE I

SUMMARY OF COURSES OF STUDY OFFERED

	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	
Adv. Arithmetic	X	X	X	X	X	X	X	X	X	
Algebra I		X	X	X	X	X	X	X	X	
Algebra II	X	X	X	X	X	X	X	X	X	
American History	X	X	X	X	X	X	X	X	X	
Ancient History		X	X		X	X		X	X	
Art	X									
Band	X	X			X		X			
Biology	X	X	X	X	X	X	X	X	X	
Bookkeeping	X		X		X		X		X	
Business English		X				X	X		X	
Chemistry	X	X	X		X		X		X	
Civics		X	X	X		X	X	X		
Commercial Law		X								
Comp. Math.		X	X					X	X	
Democracy	X	X	X	X	X	X	X	X	X	
Economics					X		X	X	X	
English I		X	X	X	X	X	X	X	X	
English II	X	X	X	X	X	X	X	X	X	
English III	X	X	X	X	X	X	X	X	X	
English IV	X	X	X	X	X	X	X	X	X	
French I	X									
French II	X									
General Science		X	X	X	X	X	X	X	X	
Glee Clubs	X	X	X	X	X	X	X	X	X	
Gymnasium	X		X							
Home Economics I	X	X			X		X			
Home Economics II							X			
Industrial Geography	X	X	X	X	X	X		X	X	
Journalism	X									
Latin I	X		X							
Latin II	X		X							
Modern History		X	X	X	X	X	X	X	X	
Music Theory	X						X		X	
Oklahoma History		X		X	X	X	X	X	X	
Orchestra	X						X			
Physics	X				X					
Physical Geography	X	X		X	X	X		X		

TABLE I (CONT'D)

SUMMARY OF COURSES OF STUDY OFFERED

	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis
Physiology	X								
Plane Geometry	X	X	X	X	X	X	X	X	X
Psychology					X				
Public Speaking	X		X	X	X	X	X		X
Shorthand	X	X	X		X		X		X
Sociology							X	X	X
Solid Geometry	X								
Spanish I	X	X			X		X		
Spanish II	X				X		X		
Theatre Arts	X								
Trigonometry		X							
Typing I	X	X	X		X		X		X
Typing II	X						X		X
Vocational Guidance	X						X		
Wood Work	X	X							
World History	X	X	X	X	X	X	X	X	X

2. Possible Programs as Suggested in Oklahoma State Plans for Vocational Education 1932-1937

According to these state plans, the following programs are suggested for the different type classes in industrial vocational education.

A. Suggested Type Course of Study for a Part-time Trade Extension Program

Trade Subjects: Special Machine Operations
Hours a year: 72

B. Suggested Type Course of Study for a Part-time Trade Preparatory Program

Electrical work	72	hrs.	a	year
Drawing	18	"	"	"
Shop, Science and Math .	18	"	"	"
English and Civics . . .	18	"	"	"
Personal Hygiene	18	"	"	"
Total	144	hrs.	a	year

C. Suggested Type Course of Study for Part-time General Continuation School

English, Letter Writing . .	36 hours
Arithmetic.	24 "
Personal Hygiene	20 "
Civics	28 "
Commercial Geography . . .	36 "
Total	144 hours

D. Suggested Type Course of Study for Day-unit Trade School

Machine Shop:

Year	Trade Subjects	No. Hours
1st	Machine Shop	540
2nd	Machine Shop	500
	Forging	67.5
	Pattern Making	67.5
	Total	1215

	Related Subjects	
1st	Shop Math.	135
	Mach. Drawing	135
	or	170
2nd	Shop Math.	68
	Mech. Drawing	67
	Science	67
	Shop Processes and Organization	68
	Total	675
	Non-Vocational	
1st	Civics English Ind. Geog. History	135
2nd	English	68
	Hygiene and Civics	67
	Total	270
	Total Hours for 1st Year	1080
	Total Hours for 2nd Year	1080
	Total	2160

Printing

Year	Trade Subjects	No. Hours
1st	Printing	540
2nd	Printing	540
	Total	1080
	Related Subjects	
1st	Trade Math.	108
	History of Printing	27
	English	135
	Design (Drawing)	67
	Safety Devices	10
2nd	Acc't-Bkkpg.	68
	English	135
	Trade Science	67
	Designing	135
	Total	752

	Non Vocational	
1st	Ind. Geography	40
	Civics	27
	Hygiene	68
	Study	58
2nd	Am. History	68
	Cur. Events	67
	Total	328
	Total Hours for 1st Year	1080
	Total Hours for 2nd Year	1080
	Total	2160

E. Suggested Type Course of Study for General Industrial School

First Year	Hours per Week
Carpentry and Cabinet Making	12½
Mechanical Drawing and Shop Mathematics	7½
English, Civics, and Industrial Geography	5
Minimum Total	25
Second Year	
Carpentry	12½
Painting, Cement Work, Drawing and Shop Math.	7½
History and English	5
Minimum Total	25

3. Information Relating to High School Students

In referring to the information contained in Table II, it is significant to note that only 1718 of 2126 students of high school age living in the nine school districts were enrolled in school during the school year 1936-37. Four hundred eight, or 19 per cent of these students were not in school. What is being done for these boys and girls? Why are they not in school? Did they drop out of school because

TABLE II

INFORMATION RELATING TO HIGH SCHOOL STUDENTS PER DISTRICT

	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Total
High School Students Living in District	800	169	178	75	275	60	439	35	95	2,126
High School Students Enrolled in 1936-37	601	149	227	65	250	56	240	45	85	1,718
Number of Freshman Enrolled Past 6 Years	1073	261	371	154	455	76	533	98	132	3,153
Number of Graduates Past 6 years	820	129	129	61	220	55	299	38	83	1,815
Number of Juniors in 1937	234	15	42	12	30	5	60	8	18	424
Number of Sophomores in 1937	237	25	55	17	35	15	75	12	16	487
No. of Grads of Past 5 Years who Have gone to College	172	36	35	18	56	13	70	10	20	430
Per Cent of Graduates who Have Gone to College	21	27	27	29	25	23	24	26	24	24 Av.
No. that Have Dropped out of H.S. Past 6 Years	264	102	159	74	203	23	167	43	49	1,084
Per Cent that Dropped out of H.S. Past 6 Years	24	39	42	47	44	30	31	43	37	38 Av.

they were not getting what they wanted in school to aid them in future work?

One thousand eighty-four students dropped out of the nine high schools during the past six years. This is approximately 38 per cent of the number that entered these schools as freshmen. Are our school systems adequately meeting the need of youth if 38 per cent of the students that enter high school never finish?

Of 1815 students graduating the past six years, 430 have gone to college. This is approximately 24 per cent of the graduates of the nine schools. The 24 per cent that have gone to college have been provided further training, but what about the 76 per cent who have not gone to college and the 38 per cent who did not finish high school? Have the latter received as much assistance in high school as the former students?

Many of the students who drop out of school and some of the ones who finish high school are too young to enter employment and, therefore, should be given something in school to prepare them for vocational responsibilities when they are old enough to enter employment, as well as education in matters pertaining to civic and social responsibilities.

4. Present Employment of Graduates

The 576 graduates of the past six years from the nine high schools, who are working, entered business, industry, and agriculture.

Table III indicates that the first ten leading jobs in which the graduates are employed are as follows:

Occupations	Number Employed	Per Cent
Farming	291	21.9
Oil Production	155	11
Service Stations	49	3.7
Cafes	46	3.5
Grocery Stores	45	3.4
Dry Goods Stores	41	3.1
Beauty Shops	38	2.9
Variety Stores	35	2.6
Offices	29	2.2
Bottling Works	28	2.1

The majority of the above jobs require ability in salesmanship and manipulative skills. There seems to be an opportunity for establishing training programs that would be beneficial to all of the above employees.

Employment is not as centralized in Carter County as it is in some sections of Oklahoma. Even agriculture and oil production, which employ the greatest number of graduates, are not localized into only one or two districts. The occupations of the graduates are distributed throughout the county.

Employment of graduates ranges from .2 of 1 per cent in electric stores to 21.9 per cent in agriculture. This shows the diversity of occupations in the county. It helps

TABLE III

SUMMARY OF INFORMATION RELATING

TO EMPLOYEES PER PAY ROLL JOB

(Received from Employers)

	Ave. Edu.	Pref'd Edu.	No. of Grads.	% Grad. per Voc.
BANKS	H.S.	Col.	9	.7
Officers	3 yrs.Col.	4 yrs.Col.	0	
Tellers	Bus. Col.	" " "	2	.15
Bookkeepers	3 yrs. Col.	" " "	3	.2
Stenographers	1 yr. Col.	" " "	2	.15
Clerks	Bus. Col.	" " "	2	.15
BAKERIES	H.S.	H.S.	20	1.5
Truck Salesmen	H.S.	H.S.	5	.38
Bakers	H.S.	H.S.	3	.2
Store Clerks	H.S.	H.S.	3	.2
Helpers	H.S.	H.S.	9	.7
BEAUTY SHOPS	Beauty Cour.	Beauty Cour.	38	2.9
BLACKSMITH SHOPS	Grade S.&H.S.	H.S.	4	.3
BOTTLING WORKS	H.S.	College	28	2.1
Office Managers	2 yrs. Col.	Col. Degree	0	
Foremen	" " "	" "	3	.2
Bottlers	H.S.	H.S.	9	.7
Bookkeepers	2 yrs. Col.	Col. Degree	2	.15
Counters	H.S.	Voc. H.S.	4	.3
Inspectors	H.S.	" "	4	.3
Truck Salesmen	H.S.	Col. Degree	6	.4
Warehouse Men	Grade S.	Voc. H.S.	0	
CABINET SHOPS	H.S.	Voc. H.S.	9	.7
CAFES	H.S.	" "	46	3.5
Cooks	H.S.	" "	12	.9
Waitresses	H.S.	" "	20	1.5
Waiters	H.S.	" "	10	.8
Cashiers	H.S.	" "	4	.3
CARPENTERS AND CONTRACTORS	H.S.	2 yrs. Col.	24	1.8
Contractors	4 yrs. Col.	Col. Degree	0	
Brick Masons	H.S.	Voc. College	8	.6
Plasterers	H.S.	" "	7	.5
Painters	H.S.	Voc. H.S.	7	.5
Carpenters	H.S.	Voc. College	2	.15
CLEANING PLANTS	H.S.	" "	13	.9
Cashiers	2 yrs. Col.	Col. Degree	2	.15
Dyers	H.S.	Voc. H.S.	2	.15
Cleaners	H.S.	" "	5	.38
Pressers	H.S.	" "	4	.3

TABLE III (CONT'D)

SUMMARY OF INFORMATION RELATING

TO EMPLOYEES PER PAY ROLL JOB

(Received from Employers)

	Ave. Edu.	Pref'd Edu.	No. of Grads.	% Grad. per Voc.
COTTON COMPRESSES	H.S.	Voc. H.S.	7	.5
Engineers	Col.Degree	Voc. Col.	0	
Oilers	Grade S.	Voc. H.S.	0	
Pressroom Emp.	2 yrs. H.S.	" "	0	
Laborers	Grade S.	" "	0	
Truck Drivers	H.S.	" "	7	.5
COTTON OIL MILL	H.S.	" "	13	.9
Engineers	4 yrs. Col.	Col. Degree	0	
Pressroom Emp.	H.S.	Voc. H.S.	2	.15
Oilers	H.S.	" "	2	.15
Lintermen	H.S.	" "	2	.15
Separator Men	H.S.	" "	2	.15
Laborers	Grade S.	" "	0	
Truck Drivers	H.S.	" "	5	.38
CREAMERIES	H.S.	" "	14	1.
Office Employees	H.S.	" "	2	.15
Truck Drivers	H.S.	" "	6	.4
Laborers	H.S.	" "	6	.4
DAIRIES	2 yrs. Col.	College Deg.	10	.8
Milkers	H.S.	Voc. H.S.	4	.3
Deliverymen	2 yrs. Col.	Col. Degree	6	.4
Managers	4 yrs. Col.	Col. Degree	0	
DRUG STORES	H.S.	Voc. H.S.	25	1.9
Pharmacists	Col. Deg.	Col. Degree	0	
Cashiers	Bus. Col.	" "	3	.2
Soda Skeets	H.S.	Voc. H.S.	14	1.
Managers	Col. Deg.	Col. Degree	0	
Cooks	H.S.	Voc. H.S.	4	.3
Delivery Boys	H.S.	" "	4	.3
DRY GOODS	H.S.	" "	41	3.1
Managers	2 yrs. Col.	4 yrs. Col.	1	.07
Shoe Clerks	H.S.	Voc. H.S.	10	.8
Ready to Wear	H.S.	" "	11	.9
Men's Clothes	H.S.	" "	11	.9
Cashiers	Bus. Col.	Bus. Col.	8	.6
ELECTRIC STORES	H.S.	Col. Degree	3	.2
FARMING	H.S.	" "	291	21.9
Managers	2 yrs. Col.	" "	50	3.8
Mechanics	" " "	" "	50	3.8
Truck Drivers	H.S.	Voc. H.S.	91	6.8
Laborers	H.S.	" "	100	7.
FEED STORES	H.S.	" "	7	.5

TABLE III (CONT'D)

SUMMARY ON INFORMATION RELATING

TO EMPLOYEES PER PAY ROLL JOB

(Received from Employers)

	Ave. Edu.	Pref'd Education	No. of Grads.	% Grads. per Voc.
FLOUR MILLS	H.S.	Voc. H.S.	12	.9
Head Miller	H.S.	" "	1	.07
Elevator Sup't.	Col. Deg.	Col. Degree	0	
Warehouse Men	H.S.	Voc. H.S.	6	.4
Traveling Salesmen	Col. Deg.	Col. Degree	0	
Bookkeepers	Bus. Col.	Bus. Col.	2	.15
Secretary	" "	" "	2	.15
Stenographers	" "	" "	1	.07
FURNITURE STORES	H.S.	Col. Degree	8	.6
Managers	2 yrs. Col.	" "	1	.07
Clerks	" " "	" "	5	.4
Service Men	H.S.	Voc. H.S.	1	.05
Shop Man	H.S.	" "	1	.05
GARAGES	H.S.	" "	28	2.2
Sales Managers	H.S.	2 yrs. Col.	1	.05
Parts Managers	H.S.	Voc. H. S.	1	.05
Service Managers	H.S.	" "	1	.05
Mechanics	H.S.	" "	7	.5
Salesmen	H.S.	" "	10	.8
Car Greasers	H.S.	" "	4	.3
Car Washers	H.S.	" "	4	.3
GAS COMPANIES	H.S.	Col. Degree	3	.2
Managers	4 yrs. Col.	" "	0	
Bookkeepers	Bus. Course	Bus. Course	1	
Field Men	H.S.	Voc. H.S.	2	
GAS PRODUCTION	H.S.	College	22	1.6
Engineers	Col. Degree	Col. Degree	0	
Foremen	H.S.	2 yrs. Col.	6	.4
Field Men	H.S.	Voc. H.S.	16	1.2
GENERAL MERCHANDISE	H.S.	" "	15	1.1
Managers	H.S.	" "	0	
Bookkeepers	H.S.	" "	6	.4
Salesmen	H.S.	" "	9	.7
GROCERY STORES	H.S.	" "	45	3.4
Managers	H.S.	2 yrs. Col.	0	
Bookkeepers	H.S.	Voc. H.S.	10	.8
Salesmen	H.S.	" "	35	2.6
HOTELS	H.S.	" "	12	.8
Managers	H.S.	2 yrs. Col.	0	
Porters	Grade S.	Voc. H.S.	0	
Maids	H.S.	" "	12	.9

TABLE III (CONT'D)

SUMMARY OF INFORMATION RELATING

TO EMPLOYEES PER PAY ROLL JOB

(Received from Employers)

	Ave. Edu.	Pref'd Edu.	No. of Grads.	% Grads. per Voc.
ICE PLANTS	H.S.	Voc. H.S.	4	.3
Managers	H.S.	" "	0	
Laborers	H.S.	" "	2	
Truck Drivers	H.S.	" "	2	
JEWELRY STORES	2 yrs. Col.	Col. Degree	4	.3
Managers	4 " "	" "	0	
Salesmen	H.S.	" "	4	.3
LAUNDRIES	H.S.	Voc. H.S.	16	1.2
Managers	2 yrs. Col.	Col. Degree	0	
Shopworkers	H.S.	Voc. H.S.	7	.5
Bookkeepers	Bus. Col.	Bus. College	3	.2
Truck Drivers	H.S.	H.S.	6	.4
LUMBER YARDS	H.S.	Col. Degree	11	.8
Managers	2 yrs. Col.	Col. Degree	0	
Carpenters	H.S.	" "	2	.15
Office Employees	Bus. Course	" "	3	.2
Yard Men	H.S.	Voc. H.S.	6	.4
MACHINE SHOPS	H.S.	" "	25	1.9
Engineers	Col. Degree	Col. Degree	0	
Machinists	H.S.	Voc. H.S.	5	.38
Blacksmiths	H.S.	" "	5	.38
Welders	H.S.	" "	6	.4
Truck Drivers	H.S.	" "	6	.4
Office Employees	Bus. Course	Bus. Course	3	.2
Laborers	Grade S.	Voc. H.S.	0	
MATTRESS FACTORIES	H.S.	" "	3	.2
NEWSPAPERS	2 yrs. Col.	Col. Degree	8	.6
Editors	Col. Degree	" "	0	
Reporters	2 yrs. Col.	" "	1	.07
Linotype Operator	H.S.	Voc. H.S.	4	.3
Others	H.S.	" "	4	.3
OFFICES	2 yrs. Col.	Col. Degree	29	2.2
OIL PRODUCTION	H.S.	Voc. H.S.	155	11.
Prod. Foremen	Col. Degree	Col. Degree	0	
Gang Pushers	H.S.	Voc. H.S.	2	.15
Pumpers	H.S.	" "	20	1.5
Roustabouts	H.S.	" "	75	5.6
Cleanout Drillers	H.S.	" "	35	2.6
Office Employees	Bus. Course	Bus. Course	23	1.6
OIL RIG COMPANY	H.S.	Voc. H.S.	7	.5
Rig Builders	H.S.	" "	1	.07
Bookkeepers	H.S.	Bus. Course	1	.07
Common Laborers	H.S.	Voc. H.S.	5	.38

TABLE III (CONT'D)

SUMMARY OF INFORMATION RELATING

TO EMPLOYEES PER PAY ROLL JOB

(Received from Employers)

	Ave. Edu.	Pref'd Edu.	No. of Grads.	% Grads. per Voc.
OIL FIELD SUPPLY	H.S.	Voc. H.S.	5	.38
Manager	2 yrs. Col.	Col. Degree	0	
Shop Men	H.S.	Voc. H.S.	3	.2
Truck Drivers	Grade S.	" "	2	.15
PACKING PLANTS	H.S.	" "	14	1.
Managers	3 yrs. Col.	Col. Degree	0	
Office Employees	4 " "	" "	0	
Laborers	H.S.	Voc. H.S.	14	1.
PIPE LINE (Gas)	H.S.	" "	16	1.2
Foremen	2 yrs. Col.	Col. Degree	0	
Truck Drivers	H.S.	Voc. H.S.	2	.15
Repair Men	H.S.	" "	2	.15
Guagers	H.S.	" "	2	.15
Line Walkers	Grade S.	" "	0	
Laborers	H.S.	" "	8	.6
Time Keepers	H.S.	" "	2	.15
PIPE LINE (Oil)	H.S.	College	15	1.1
Chief Engineers	4 yrs. Col.	Voc. Col.	0	
Engineers	2 " "	" "		
Telegraph Operator	H.S.	2 yr.Voc.Col.	1	.07
Connection Foremen	Ele & H.S.	Voc. H.S.	0	
Supt. of Gang	2 yrs. Col.	Voc. Col.	0	
Pipe Liners	H.S.	Voc. H.S.	8	.06
Clerk of Supt.	H.S.-Bu.Col.	Business Col.	1	.07
Field Guagers	Ele. & H.S.	Voc. H.S.	5	.38
Planing Mills	" "	" "	4	.3
PLUMBING SHOPS	" "	" "	8	.6
Plumbers	" "	" "	6	.4
Office Employees	H.S.& Bu.Col.	Bus. College	2	.15
PRINTING OFFICES	Col. Degree	Col. Degree	6	.4
RADIO SHOPS	H.S.	Voc. H.S.	8	.6
Repair Men	H.S.	" "	3	.2
Salesmen	H.S.	2 yrs. Col.	5	.38
SANITORIUMS	H.S.	Voc. H.S.	22	1.7
Doctors	M.D.	M.D.	0	
Lab. Tech.	Col. Degree	Col. Degree	0	
Porters (Colored)	H.S.	H.S.	3	.2
Nurses	H.S.	H.S. & N.T.	12	.9
Cooks	H.S.	Voc. H.S.	1	.07
Maids (Colored)	H.S.	" "	2	.15
Office Employees	2 yrs. Col.	Col. Degree	3	.2

TABLE III CONT'D)

SUMMARY OF INFORMATION RELATING

TO EMPLOYEES PER PAY ROLL JOB

(Received from Employers)

	Ave. Edu.	Pref'd Edu.	No. of Grads.	% Grads. per Voc.
SERVICE STATIONS	H.S.	Voc. H.S.	49	3.7
Managers	H.S.	" "	3	.2
Car Greasers	H.S.	" "	8	.6
Car Washers	H.S.	" "	8	.6
Office Employees	H.S.	" "	3	.2
Attendants	H.S.	" "	27	2.2
SHEET METAL SHOPS	H.S.	" "	25	1.9
SHOE SHOPS	2 yrs. Col.	College	15	1.1
TELEGRAPH OFFICES	H.S.	Voc. H.S.	5	.38
Operators	H.S.	" "	5	.38
Delivery Boys	Ele. & H.S.	Ele. & H.S.	0	
TELEPHONE OFFICES	H.S.	H.S.	3	.2
Line Men	H.S.	H.S.	2	.15
Operators	2 yrs. Col.	Col. Degree	0	
Trouble Shooters	H.S.	Voc. H.S.	1	.07
THEATERS	H.S.	" "	8	.6
Managers	2 yrs. Col.	Col. Degree	0	
Ticket Sellers	H.S.	Voc. H.S.	3	.2
Operators	H.S.	" "	5	.38
TIRE STORES	H.S.	" "	8	.6
Managers	B.S. & MA.	Col. Degrees	0	
Credit Manager	H.S.	Voc. H.S.	2	.15
Budget "	H.S.	" "	2	.15
Service Men	H.S.	" "	4	.3
VARIETY STORES	H.S.	" "	35	2.6
Managers	H.S. & Bu.Col.	Col. Degree	0	
Learners	H.S.	Voc. H.S.	3	.2
Cashiers	H.S.	" "	4	.3
Floor Women	H.S.	" "	3	.2
Saleswomen	H.S.	" "	24	1.8
Stock Man	Illiterate	" "	0	
Porter (Colored)	3 yrs. Col.	" "	1	.07
WHOLESALE HOUSES	H.S.	" "	21	1.5
Managers	H.S.	Col. Degree	0	
Salesmen	H.S.	Voc. H.S.	4	.3
Truck Drivers	H.S.	" "	4	.3
Warehouse Men	H.S.	" "	9	.7
Bookkeepers	Bus. Col.	Bus. Col.	4	.3

to determine what types of vocational education programs should be offered, also.

There are 3673 individuals employed in the places surveyed for this study. The graduates of the past six years comprise 15.7 per cent of the total number employed.

Thirteen hundred eighty-five of the 1815 graduates of the past six years did not go to college. The 576 who are working in the places included in this study account for only 41 per cent of the 1385 who did not go to college. If vocational educational training is added to the present educational programs, more graduates should obtain employment in these places.

5. Employment Opportunities of Future Graduates

It is safe to say that if business, industry, and agriculture continue to employ as many graduates as they have the past six years, the possibilities of placing graduates seem favorable, even if the graduates do not get pre-employment training. If the students can be given occupational training in school, the chances of placement should increase as evidenced by the interest in such an educational program expressed by the employers of the county.

In referring to Table IV, it is evident that the majority of the employees are engaged in work requiring manipulative skill. The ten vocations in which the greatest number of employees are found include:

Vocation:	Number Employed:
1. Oil Production	700

TABLE IV

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
BANKS	32				8		5			45
Officers	9				2		1			12
Tellers	10				1		1			12
Bookkeepers	4				1		1			6
Stenographers	4				2		1			7
Clerks	5				2		1			8
BAKERIES	37			4	13		6			60
Truck Salesmen	12			1	5		1			19
Bakers	8			1	3		2			14
Store Clerks	5			1	1		1			8
Helpers	12			1	4		2			19
BEAUTY SHOPS	45			2	12		15			74
BLACKSMITH SHOPS	16		2	3	12		5	1		39
BOTTLING WORKS	41									41
Office Managers	3									3
Foremen	3									3
Bottlers	8									8
Bookkeepers	3									3
Counters	6									6
Inspectors	3									3
Truck Salesmen	12									12
Warehouse Men	3									3
CABINET SHOPS	14				3					17
CAFES	85	2	2	8	26		22			145
Cooks	40	1	1	3	12		8			65
Waitresses	18	1	1	1	8		3			32
Waiters	12			2	1		4			19
Cashiers	10			2	5		7			24
CARPENTERS & CONTRACTORS	45	5	7	6	12	1	8	1	1	86
Contractors	5	2	3	2	4	1	2	1	1	21
Brick Masons	8	1	1	1	2		1			14
Plasterers	5									5
Painters	12	1	2	2	3		3			23
Carpenters	15	1	1	2	3		2			24
CLEANING PLANTS	26				9		6			41
Cashiers	6				3		2			11

TABLE IV (CONT'D)

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
Dyers	3				1		1			5
Cleaners	6				3		2			11
Pressers	11				2		1			14
COTTON COMPRESSES	21									21
Engineers	2									2
Oilers	2									2
Pressroom Employees	10									10
Laborers	5									5
Truck Drivers	2									2
COTTON OIL MILL	45									45
Engineers	3									3
Pressroom Employees	7									7
Oilers	3									3
Lintermen	3									3
Separator Men	3									3
Laborers	25									25
Truck Drivers	1									1
CREAMERIES	30				2		2			34
Office Employees	8									8
Truck Drivers	7									7
Laborers	15				2		2			19
DAIRIES	32				10		6			48
Milkers	18				7		3			28
Deliverymen	10				2		2			14
Managers	4				1		1			6
DRUG STORES	80				10		7			97
Pharmacists	9				3		2			14
Cashiers	9				2		2			13
Soda Skeets	42				4		2			48
Managers	9				1		1			11
Cooks	5									5
Delivery Boys	6									6
DRY GOODS	95				25		14			134
Managers	15				5		4			24
Shoe Clerks	22				6		2			30
Ready to Wear	35				8		4			47
Men's Clothes	15				2		2			19

TABLE IV (CONT'D)

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
Cashiers	8				4		2			14
ELECTRIC STORES	8									8
FARMING	35	12	10	6	4	14	6	16	30	133
Managers	5	2	1	1	1	4	1	4	6	25
Mechanics	5	1	2	1	1		1	1	3	15
Truck Drivers	8	3	2	2	1	1		3	4	24
Laborers	19	6	5	2	1	9	4	8	17	71
FEED STORES	22				7		4			33
FLOUR MILL	27									27
Head Miller	1									1
Elevator Sup't	1									1
Warehouse Foreman	1									1
Second Miller	1									1
Truck Drivers	3									3
Warehouse Men	12									12
Traveling Salesmen	4									4
Bookkeepers	2									2
Secretary	1									1
Stenographer	1									1
FURNITURE STORES	28				12		6			46
Managers	11				4		2			17
Clerks	8				6		2			16
Service Men	3				1		1			5
Shop Man	6				1		1			8
GARAGES	45		3	5	10		8			71
Sales Managers	5				3		2			10
Parts Managers	5				2		2			9
Service Managers	5				1		1			7
Mechanics	15		3	5	4		3			30
Salesmen	10									10
Car Greasers	2									2
Car Washers	3									3
GAS COMPANIES	20		7	6	14					47
Managers	3		1	1	1					6
Bookkeepers	3		1	1	1					6
Field Men	14		5	4	12					35
GASOLINE PRODUCTION	25	28	16	30	20		25			144
Engineers	10	4	3	5	3		2			27
Foremen	5	2	1	2	1		2			13

TABLE IV (CONT'D)

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
Field Men	10	22	12	23	16		21			104
GENERAL MERCHANDISE	20		10	4	6		11			51
Managers	5		1	1	1		2			10
Bookkeepers	3		1	1	1		1			7
Salesmen	12		8	2	4		8			34
GROCERY STORES	35	17	8	12	40	4	31	3	2	152
Managers	10	4	1	5	10	2	5	1	1	39
Bookkeepers	8				2		2			12
Salesmen	17	13	7	7	28	2	24	2	1	101
HOTELS	45				12		6			63
Managers	13				3		2			18
Porters	20				6		2			28
Maids	12				3		2			17
ICE PLANTS	22			1	3		4			30
Managers	3				1		1			5
Laborers	10				1		2			13
Truck Drivers	9			1	1		1			12
JEWELRY STORES	17				2					19
Managers	4				1					5
Salesmen	13				1					14
LAUNDRIES	33				3		3			39
Managers	3				1		1			5
Shopworkers	20				2		2			24
Bookkeepers	3									3
Truck Drivers	7									7
LUMBER YARDS	24				18		6			48
Managers	6				4		2			12
Carpenters	5				6		2			13
Office Employees	8				3		1			12
Yard Men	5				5		1			11
MACHINE SHOPS	47				67		8			122
Engineers	3				15		2			20
Machinists	5				12		2			19
Blacksmiths	4				5		2			11
Welders	6				12		2			20
Truck Drivers	5				5					10
Office Employees	6				7					13
Laborers	18				11					29
MATTRESS FACTORIES	14									14

TABLE IV (CONT'D)

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
NEWSPAPERS	18				3		3			24
Editors	3				1		1			5
Reporters	8									8
Linotype Operators	3				1		1			5
Others	4				1		1			6
OFFICES	110				12		8			130
OIL PRODUCTION		135	115	75	200	15	150		10	700
Prod. Foremen		8	6	5	10	1	3		1	34
Gang Pushers		5	4	4	8	1	4			26
Pumpers		30	15	12	42	3	17		2	121
Roustabouts		79	80	49	122	8	118		5	461
Cleanout Drillers		3	2	1	6	1	4		1	18
Office Employees		10	8	4	12	1	4		1	40
OIL RIG COMPANY					24					24
Rig Builders					12					12
Bookkeepers					1					1
Laborers					11					11
OIL FIELD SUPPLY					8		5			13
Manager					2		1			3
Shop Men					5		3			8
Truck Drivers					1		1			2
PACKING PLANTS	32									32
Managers	2									2
Office Employees	10									10
Laborers	20									20
PIPE LINE (Gas)	10	6	11	11	12		25			75
Foremen	1	1	2	2	2		3			11
Truck Drivers	1	1	1	1	1		2			7
Repair Men	1	1	1	1	1		1			6
Guagers	2	1	2	2	2		3			12
Line Walkers	2	1	2	1	2		2			10
Laborers	2	1	2	3	3		13			24
Time Keepers	1		1	1	1		1			5
PIPE LINE (Oil)	20	8	18	11	30		28			115
Chief Engineers	1	1	1	1	1		1			6
Engineers	5	2	3	2	7		6			25
Telegraph Operators	3	1	1	1	4		2			12
Connection Foremen	1	1	1	1	1		1			6
Sup't of Gang	1		1	1	1		1			5

TABLE IV (CONT'D)

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
Pipe Liners	4	1	7	2	10		13			37
Clerk of Sup't	1		1	1	1		1			5
Field Guagers	4	1	3	2	5		3			18
PLANING MILLS	12									12
PLUMBING SHOPS	18			1	3		2			24
Plumbers	10			1	2		2			15
Office Employees	8				1					9
PRINTING OFFICES	16				3		3			22
RADIO SHOPS	10				3		1			14
Repair Men	4				2		1			7
Salesmen	6				1					7
SANITORIUMS	40									40
Doctors	5									5
Lab. Technologists	2									2
Porters	3									3
Nurses	18									18
Cooks	3									3
Maids	5									5
Office Employees	4									4
SERVICE STATIONS	80	13	15	17	32	2	13	4	2	178
Managers	22	1	1	1	1	1	1	1	1	30
Car Greasers	12				3		1			16
Car Washers	8				3		1			12
Office Employees	14				2		1			17
Attendants	24	12	14	16	23	1	9	3	1	103
SHEET METAL SHOPS	25				15		12			52
SHOE SHOPS	18				7		5			30
TELEGRAPH OFFICES	12									12
Operators	3									3
Delivery Boys	9									9
TELEPHONE OFFICES	25	2	2	2	5	2	3	2		43
Line Men	8									8
Operators	12	2	2	2	5	2	3	2		30
Trouble Shooters	5									5
THEATERS	15				7		7			29
Managers	4				2		2			8
Ticket Sellers	6				2		2			10
Operators	5				3		3			11
TIRE STORES	18									18

TABLE IV (CONT'D)

INDUSTRIAL AND BUSINESS ESTABLISHMENTS AND

NUMBER EMPLOYED IN EACH PER SCHOOL DISTRICT

Occupations	Ardmore	Dundee	Fox	Graham	Healdton	Wheeler	Wilson	Woodford	Zaneis	Totals
Managers	3									3
Credit Managers	2									2
Budget Dep't	2									2
Service Men	11									11
VARIETY STORES	60				5		4			69
Managers	3				1		1			5
Learners	5									5
Cashiers	5				1		1			7
Floor Women	2									2
Sales Women	40				2		2			44
Stock Men	3				1					4
Porters	2									2
WHOLESALE HOUSES	43				11					54
Managers	4				1					5
Salesmen	10				3					13
Truck Drivers	8				2					10
Warehouse Men	10				2					12
Bookkeepers	11				3					14
TOTALS	1693	228	226	204	740	38	483	27	45	3673

Vocation:	Number Employed:
2. Service Stations	178
3. Grocery Stores	152
4. Cafes	145
5. Gasoline Production	144
6. Dry Goods Stores	134
7. Farming	133
8. Offices	130
9. Machine Shops	122
10. Pipe Line (Oil)	115

The majority of the employees included in the above work with iron, wood, and other materials and equipment with which students in high school should be familiar.

Many of the above employees need to know something about welding, forging, plumbing, pipe fitting, carpentry, sheet metal work, and machine shop practice. Some practical shop training should be offered students if they are to be more adequately equipped for initial employment.

The information regarding desired education for employees, listed in Table III, and the statements of employers, mentioned later in this chapter, concerning possibilities of vocational education for Carter County, indicate that the educational requirements for employees are increasing. Only a few employers are satisfied with the present educational attainments of their employees.

The majority of employers desire to secure workers with a high school education which includes vocational training. Some of those desiring vocational high school graduates are

managers in: bottling works, cabinet shops, cafes, cotton oil mills, dairies, drug stores, and many others listed in Table III.

6. Relation of Present School Programs to Employment of Recent Graduates

There does not seem to be a very close relation between the courses offered in the nine high schools and the present employment of recent graduates. The following courses may be considered as being related to the ten leading occupations in which the graduates are employed.

School Subjects:	Occupations:
Math., Science, Eng., Wood W.	Farming
Math., Science, Eng., Wood W.	Oil Production
Math., Science, Eng.	Service Stations
Math., Science, Home Ec., Eng.	Cafes
Math., Science, Eng.	Grocery Stores
Math., Science, Home Ec., Eng.	Dry Goods Stores
Science, Eng.	Beauty Shops
Math., Eng.	Variety Stores
Typing, Shorthand, Bookkeeping, Math., Eng.	Offices
Science, Math., Eng.	Bottling Works

The above courses are not directly related to any particular occupation, but they are indirectly related to all, and to many more occupations not listed above.

It is evident that the courses listed above, and in Table I, are designed to prepare the student more for college

entrance than for future employment, and it is the purpose of this study to secure and report suggestions for improving this situation. These suggestions are found in Chapter V.

7. Attitudes of Laymen and Educators Toward a Vocational Education Program

In talking with men in industry, business, and agriculture in Carter County, the prevailing attitude was that something should be done to improve the present educational programs so students could have a better opportunity to study subjects related to their future employment.

R. H. Laner, Manager of Goodrick Silverton Store, Ardmore, said:

> It seems that the public schools are failing to equip their graduates for future employment. Too many are dropping out of school and taking any sort of job that is handy.
>
> If the schools were offering something that the students like and can use later, I don't believe they would drop out of school.

The manager of the Kress Store in Ardmore, W. K. Malaby, advises that:

> The vocational educational set-up, as it is operated today, does not give the people with whom I have to work the right understanding of the meaning of the word "job". To them it means a "pay day" and nothing else. I believe that vocational education must teach or train people to believe in their jobs and to stay with one task until they are efficient workmen.

B. R. Beall, owner and manager of Beall's Bakery, Healdton makes the following statement:

> I had rather have in my employ men who have had vocational training, even though a small amount, than all the college graduates I've seen. I wish it were

possible for all high schools to have practical courses of training for jobs such as I have, then the training on my part would not be so difficult.

J. T. Murphey, Manager of the Choctow Cotton Oil Company, Ardmore, states:

It would be swell if every employee had a high school education, which included vocational training, because accidents would be fewer, and we would get a higher rate of efficiency throughout the plant.

The comment offered by R. A. Davis, Co-owner of Davis and Eakin Lumber Company, Healdton, was:

Better trained workers are needed in all vocations. We could provide steady work for a number of skilled carpenters if we had them. It is difficult to find carpenters who are really skilled in their trade. The majority of them were not trained to do the work, but merely drifted into the trade.

I think that high school graduates should be impressed with the idea that they are worth only what they can produce in a material way and that the world does not owe them anything. It is up to them to make a place for themselves in the world.

H. B. Lamb, District Production Superintendent of the Magnolia Oil Corporation states:

In traveling my territory I find that the plants that have the highest rate of efficiency are those plants which have trained workmen on the job. I do not refer to the men who have been with the company for years and have developed their trade, but the young men who are entering petroleum industry in the roustabout fields.

The men who have had a small amount of training can offer better methods for doing things and a more rapid way of doing it than the one with no training. I believe if I had my way altogether in hiring and firing the men, I would demand that they have some vocational training before they could have a job.

The Texas Company Production Department Superintendent, E. F. Dale, Healdton, expresses himself thus:

Vocational education has the greatest possibilities

for this section of the country of any phase of education. We need to include training of vocational nature in our courses of study. The greater per cent of the boys who come to me for jobs are ones who will have no opportunity to go to college, and too, college training might not be a benefit to them. So many boys have to support families before they have been able to develop physically that the schools must provide a way in which they can learn a trade before their compulsory education ends.

S. W. Hamner, Production Superintendent of the Schemmerhorn Oil Company, Healdton, makes this statement:

The vocational educational advantages in this state seem to me to be nil. Due to the depression the things such as vocational training in school were cut off because of lack of funds. Perhaps now those things could be reinstated. If they could be our boys and girls might have something to look toward instead of the traditional 'I can't'.

I am highly in favor of a vocational school, if that is not possible, at least some vocational training in the present school system.

Fant Roberts, Superintendent of the Turman Oil Company, Wilson, said:

If we had a general shop in our school it would enable our community to offer a broad course in the industrial arts without the expense of equipping a number of related shops. It would help the oil companies to choose better trained men for general work. It would give us a higher rate of efficiency than we had formerly. Last, it would encourage more people to go into industry, that is, better trained people.

The District Chief Engineer of the Lone Star Gas Corporation, W. E. Johns, Fox, has this to say about vocational work:

Vocational education must prepare men for work other than the mechanical labor. It must train men to learn to respect their superiors. It must train them to get along with their co-workers. These things seem to me to be as important as knowing how to do their job and to do it well.

Charles J. Shinn, Manager of the Fox Rig and Lumber Company, Healdton, said:

> The past few years we have tried to hire as many young men as possible. The reason for this is that the young men have better ideas for doing things and so many of them have had some training along the lines we need. They keep up with new ideas in the paper, in magazines and books. Altogether they prove to be more apt pupils when something new comes up while on location.

W. L. Blankenship, Member of the school board and a farmer, Woodford makes this statement:

> Education must include all types of things such as agriculture, mechanical training, home economics, and of course the three R's. I have been in favor of a trade school because there the boys can really train themselves for the job that they want.

Finis Smalley, Owner of a farm near Wilson had this to say:

> If the men I employ during harvest had had some vocational agriculture training while in high school, the work they do for me would not be a task. The boys who have had agricultural training have not found it so difficult to raise crops. The people who have the most to say about agriculture are those people who do not know how to economize and work in order that the land might produce good crops.

Further evidence of an interest in providing vocational education programs supplementary to the present guidance education program is shown in the statements of several school board members of the county.

J. R. Meeks, Clerk of the Woodford school board said:

> I do not know much about the industrial side of vocational education, but the value of vocational agriculture has been proven indirectly through the work of our county agent. He has helped us to learn new methods of farming. I believe that vocational agriculture would help the boys who plan to be farmers learn methods of doing things on the farm that would be better than the methods we have used for years.

R. G. Hall, Clerk of the board of education at Wilson, is deeply concerned with education and has been a loyal supporter of his school system for many years. He offered the following:

> I believe that more practical experience should have a place before too much band, athletics, and other extra activities. Employers search for men who have had practical experience and who have had an opportunity to meet people in the business world. Men who are not too "high-hat" and are good mixers have a better chance of getting good jobs.

Ben H. Price, Member of the Wheeler school board, states:

> I am for anything that will make our school better. If vocational education is the most profitable thing, and it seems to be, then I think it should be added in our school if possible. Personally, I should like for my children to have an opportunity to learn something in school that will aid them in getting a good job and enjoying it after they get it. It will be difficult for me, as it is for many parents, to send them to college.

J. B. Averyt, Clerk of the Graham school board, expresses himself thus:

> I wish that my son, who is a senior in high school next year, could learn something that is related to the petroleum industry. I have had several years' experience in the oil fields and he will probably follow the same line of work. Vocational education seems to be a fine thing.

J. E. Williamson, Member of the Healdton board of education, states:

> Industry needs more trained men. High school shops would be a good place for future workers to find the kinds of work that they are suited for. Industrial arts would be fine for every one to have regardless of his vocation. It provides an opportunity for a profitable hobby. I have a shop for my twelve year old son and myself. It has provided many hours of companionable leisure.

Mrs. John Murphey, President of the Ardmore board of education, states:

> Every high school should include some phase of vocational education in its high school program. The girls need home economics and the boys need shop work.

Another statement made by school board members was the statement of F. H. Strelow, Clerk of the Dundee school board.

> High school students should be taught something about the work they will do later in life. More boys need to study foundry, metal work, etc. Our shop in manual training has given the boys an opportunity to make things they wanted to make.

T. W. Welch, Director of Zaneis school board, says:

> We have plenty of room in our school building for shops and I am for putting on some vocational work if we can finance it. Vocational agriculture and manual training would be better suited to our community.

Jess Phipps, Clerk of Fox school board, states:

> I have been closely connected with school work for a number of years, and have seen our school grow from about 75 in high school to about 225 in high school in only a few years. We have one of the best rural consolidated schools in Oklahoma. We have two fine brick buildings and need another one to take care of the enrollment. If we could add vocational work, I believe we could offer as good a curriculum as any high school in the county. We intend to offer some manual training next year.

Every school superintendent that was interviewed stated that he is highly in favor of vocational education. The statement of Roy Bondurant, Superintendent of Dundee High School is typical of many replies:

> I am of the opinion that the possibilities for vocational education in this county are great. I am convinced that there is a great need for it at this time and I believe that the desire for it can be built to the point that it will be demanded. I think a program of this kind will help keep the students in school that would otherwise drop out.

> I should like to see two types of systems installed in our schools. I should like to have a vocational division with a supervisor over it and a general division with a principal as head. A superintendent would be over both divisions.

Another example of the attitude of educators is noted in the statement made by George P. Rush, Principal of Wilson High School.

> When the schools are able to finance it, the possibilities are, as always, good. Theory of vocations is good, but real vocational education has untried possibilities. Students need it because practice becomes guidance of a concrete nature. Vocational education on a desirable scale is handicapped because of the lack of variety. Probably only through a well developed vocational educational center can mass results be seen for particular sections of the state.
>
> It seems impossible under the present economic arrangement to build these centers, however. Therefore, taking the county as a unit, it might be wise to add elements of vocational education to the present set-up.

A. L. Pool, Superintendent of Healdton Schools, states:

> Vocational education is needed very much because a large number of the students will never profit very much from a college preparatory course. Students should be trained for the work that they are going to follow in life.

In addition to attitudes expressed by local business men and educators, the writer finds the following to be typical attitudes toward vocational educational programs expressed by current authorities:

Frederick J. Moffitt[1], Superintendent of Schools, Hamburg, New York stated in a recent magazine article:

> The age of too much leisure time is not around the corner--it is here. The age of sociological and technological change is not an academic fancy of the future--

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[1]Moffitt, Frederick J., "Industrial Arts Meets the Challenge" Industrial Arts and Vocational Education Magazine. March, 1936, pp. 81-82.

it exists. Leaders in education are doing their best to meet the changed civilization. If the industrial arts program is as sound and purposeful as its adherents claim, it will meet gladly the challenge of today.

Another example of the attitude of leaders in education is noted in an editorial by J. J. Metz[2], editor of "Industrial Arts and Vocational Education Magazine".

> It was but a few short weeks ago when the world was startled by the astounding accomplishment of that giant airplane which American enterprise, genius, and daring had perfected, the "China Clipper".
>
> The flight from San Francisco to Macao in far away China was not the outcome of a thought quickly conceived and hurriedly carried out.
>
> Confronted by stories of the almost unbelievable happening about us day after day, it is difficult to understand that there are still so many men--yes, even educators, who cannot sense that the educational offerings of today must necessarily be quite different from those of one hundred, nay, even of fifty or twenty years ago. Few men today are born into a life that can be spent in contemplation alone. They have to live in and adapt themselves to a life which uses the forces of nature in a way much more comprehensive than ever before. The puny strength of man is multiplied many times by the machine, and it is essential that he learn how to use and dominate the mechanical servants which have been devised for him.
>
> A purely academic education for all is no longer feasible and the accomplishment of the men who have made the "China Clipper" a possibility is the best argument for the enlargement and perpetuation of that phase of educational work known as industrial arts and vocational education.

Educators are not the only people interested in seeing that the schools meet the changing conditions. For instance

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[2]Metz, J. J., "Editorial, 'Industrial Arts and Vocational Magazine'", March, 1936, p. 90.

John W. Higgins[3], President of Worcester Pressed Steel Company, states:

> For vocational training courses, America is now allotting only one per cent of her three thousand million tax payers' dollars expended annually for public education. Ninety-nine per cent is denoted to general preparation for other professions, many of them over-crowded and likely to remain so for years. Out of every 100 pupils, 98 are receiving no school training directed toward trade employment and we know that the boys will never find happiness in life until they discover that they possess talents that the world wants sufficiently to pay for.

Francis L. Bacon[4], Superintendent of Evanston Township High School is decidely in favor of vocational education. In a recent magazine article he said:

> It can hardly be disputed that every individual should be educated somewhere for successful participation in a particular field of service to society. Such participation is desirable no less for one's personal happiness than for the best interests of society. Training is required for every vocation, and such training is a charge that society in one way or another must ultimately pay.
>
> The task of the schools today is not primarily the training of youth for leadership, but to promote the talents, whatever they may be, of every individual.
>
> The earlier an individual selects some vocational interest, the greater effort he will make in all his studies.
>
> The pupil retains valuable standards of appreciation even though he does not follow the occupation for which he was trained.
>
> The school is the only impartial educational agency under direct social control which can explore the possibilities of a wide range of occupations and provide the proper guidance for youth.

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[3]Higgins, J. W. "Vocations, Skills and Brains". Industrial Education Magazine, March, 1937, p. 79.

[4]Bacon, F. L. "A Dynamic Program of Vocational Education for Secondary Schools", Industrial Education Magazine, January 1937, p. 4.

Edward A. Fitzpatrick[5], Dean of the Graduate School, Marquette University states:

> I believe that in a democratic society in which social position is not looked upon with favor, vocational education is a necessity for all--whether as trade training in plumbing or stenography, or as professionals training in theology or architecture. I believe with the "American Federation of Labor" that this vocational education in its lower levels must be not so much training for industry as training for life in an industrial society.

8. Summary of Findings

This report indicates that the nine high schools are not offering sufficient courses in their programs to adequately meet the needs of students who drop out of school after doing two or three years or for the graduates. The majority of courses offered prepare students for college entrance, but since only a small per cent of the graduates enter college, this appears to be too weak en educational program.

School board members, employers, and school superintendents desire to strengthen their respective school programs to better meet the needs of youth, and there are enough places to employ properly trained graduates.

The final chapter is devoted to suggestions for improving the present educational programs to meet the requirements of employers and the desires of other interested parties.

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[5]Fitzpatrick, Edward A., Industrial Arts and Vocational Education Magazine, December, 1936, p. 370.

CHAPTER V

SUGGESTIONS FOR PROVIDING AN ADEQUATE VOCATIONAL EDUCATIONAL PROGRAM IN CARTER COUNTY

It is the purpose of this final chapter to make suggestions that should better the educational programs found in the county and cited in the foregoing chapters.

The following suggestions are based on the findings in the nine high school districts. They are summarized below:

1. The majority of educational courses offered in the nine high schools are designed to prepare all of the students for college, while only about 25 per cent of the graduates attend college.
2. Courses offered at the present are not adequately meeting the needs of youth, since 38 per cent of the students, who enter high school as freshmen, never graduate.
3. Eighteen hundred fifteen students have graduated from the nine high schools during the past six years. Four hundred and thirty, or 24 per cent, of that group have gone to college, which leaves 1385 who did not go. Of this 1385, 576 are working in the establishments surveyed for this report. The total number of people employed in these establishments is 3673; therefore, the graduates of the past six years comprise 15.7 per cent of the total number employed. Only 41 per cent of the

graduates, who did not enter college, are working in the places included in this report.

4. There does not seem to be enough correlation between the educational courses offered in school and present employment of the recent graduates.
5. School superintendents, board members, and employers favor the introduction of more vocational educational programs in this county to better meet the needs of more youth.

IMPROVEMENTS IN PRESENT CURRICULA OFFERED

> The program of studies provided should be sufficiently broad and diversified to afford suitable opportunity for the appropriate training of all normally constituted children of school age.

states Richard D. Allen, Director of Research and Guidance, Providence, Rhode Island.[1]

Most high schools have broadened their curricula more or less during the past decade. Commercial courses, shop courses, domestic arts and science courses, and some general non-college subjects have been added. To a school administrator who is not thoroughly familiar with the technical details of trade and industrial education, the overlapping of functions and the possible use of one type of organization to meet several different objectives in a curriculum presents a rather baffling situation. While in some respects a disadvantage, it does, however, permit a flexibility of organization which will enable courses to be set up in a city to

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[1]Allen, Richard D. Principles and Problems in Vocational Guidance, p. 121.

meet almost any specific trade needed by one type of organization or another. In order to secure a clear understanding of the possible types of service which may be rendered in trade and industrial education, it should be pointed out that the program embraces three general objectives or functions, as follows:

A. TRADE PREPARATORY. The objective of a trade preparatory course is to offer instruction advantageous for entrance into a trade or industrial pursuit.

B. TRADE EXTENSION. The objective of a trade extension course is to give a type of instruction to persons who are already employed in a trade or industrial pursuit which will supplement their daily work in order to enable them to become more proficient in the work in which they are engaged or to prepare them for advancement in the same general line of work.

C. GENERAL CONTINUATION. General continuation courses have as their primary objective the promotion of "civic or vocational intelligence" of young workers; the instruction being adapted to persons from fourteen to eighteen years of age. Modern continuation schools subdivide this general objective into (1) employment adjustment, (2) vocational and educational guidance, and (3) social adjustment.

> The curricula of the school and the program of each pupil should be so organized as to provide for a proper balance of the major aims of education, with particular reference to the training of the citizen, of the worker, and of the individual as a somewhat independent personality,

says Richard D. Allen.[2]

SUGGESTED VOCATIONAL FIELDS TO BE OFFERED IN THE COUNTY

The practical-arts courses, as now conducted in the public schools of Carter County, include the school subjects commonly designated as agriculture, commercial work, home economics, and industrial arts. Among the purposes of these offerings in the school are: to offer opportunity for important developmental experiences denied to youth by modern life; to conserve the inventive and mechanical genius of the race, which so vitally conditions human progress; to aid in making constructive and effective environmental adjustments; and to contribute to intelligent vocational choices. Specific vocational training in the county has not had an opportunity to really gain a foothold or to even be tried to see if it would meet the needs of our boys and girls. Standing in a strategic position between the purely academic phases of elementary and secondary education on one hand, and the definitely vocational education agencies of society on the other, the practical-arts courses have a unique opportunity greatly to enrich each, and to contribute much to a desirable unification of a comprehensive and genuinely democratic program of education.

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[2]Ibid., p. 123.

Among the vexing problems which confront those attempting to develop programs of vocational education, are: the location of training centers, the setting up of workable cooperative agreements with vocational groups, the securing of trained leadership and direction, the insuring of adequate and continuous support, the development of efficient instructional procedures, and the effective coordination of local, state, and federal efforts in certain fields of work.

It seems clear that the progress of vocational education in Carter County will depend upon the degree to which the state assumes full responsibility for support and direction. This improvement in curricula depends also on the demand made upon school men to provide such training.

Under the national vocational education act,[3] six types of trade or industrial schools or classes may be organized. These may be applicable to Carter County. They are as follows:

1. Evening industrial.
2. Part-time trade extension.
3. Part-time trade preparatory.
4. Part-time general continuation.
5. Unit trade (commonly known as day trade).
6. General industrial (in cities under 25,000).

1. Evening industrial.

   An evening industrial school or class established under the national education act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade in a particular trade, supplemental to the daily employment, to persons over 16 years of age who have entered upon employment in that trade or industrial pursuit.

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[3]Trade and Industrial Education, June, 1932, Rev., Bulletin Number 17.

2. Part-time trade extension schools or classes.

The instruction in a trade extension part-time school or class must (1) be designed to meet the needs of persons over 14 and less than 18 years of age, and (2) must be given for not less than 144 hours per year.

3. Part-time trade preparatory school or classes.

This school is established and maintained in any community for the purpose of giving instruction of less than college grade to persons over 14 years of age who have entered upon employment, which instruction shall be designed to fit these persons for useful employment in a trade or industrial pursuit other than the one in which they are employed.

4. Part-time general continuation schools or classes.

A general continuation part-time school or class established under the national act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade to persons over 14 who have entered upon employment, which instruction shall be given in subjects to enlarge the civic or vocational intelligence of young workers.

This type of school is intended to meet the needs of employed minors who would not properly belong either in the trade extension or the trade preparatory type of part-time school.

5. Unit trade schools or classes.

A unit trade school or class established under the national act is a public school or class established and maintained in any community for the purpose of fitting persons for useful employment in a particular trade or industrial pursuit through instruction of less than college grade (1) designed to meet the needs of persons over 14 years of age; (2) giving not less than half of the time to practical work on a useful or productive basis; and (3) extending over not less than 9 months per year, and not less than 30 (clock) hours per week.

6. General industrial schools or classes.

A general industrial school or class established in accordance with the terms of the national act is a school or class under public control, established and maintained in any city or town of less than 25,000 population for the purpose of fitting persons for useful employment in trade or industry through instruction of less than college grade (1) designed to meet the needs of persons over 14 years of age; and (2) giving not less than half the time to practical work on a useful or productive basis.

SUGGESTED TYPES OF PROGRAMS

A. RECOMMENDATIONS FOR INDUSTRIAL ARTS IN CARTER COUNTY.

> Industrial arts in the secondary school program involves both study and experience in the materials, processes, products and occupations of an industrial society for the purpose of achieving the functions of orientation, avocation, consumers literacy, technical competency, social understanding and cultural relationships.[4]

The Ohio High School Standards for 1937 also contain the following:

> When industrial arts is offered in the seventh and eighth grades the purpose should be exploratory and designed to capitalize on the natural curiosity of youth. It should introduce the pupil to many of the principal hand tools used in different crafts. It may well include a variety of general-shop work. Such things are involved as applied drawing, assembly and repair jobs, model making, hobbies, and the like. Although the work is elementary, it should be introductory to the courses to follow and provide a substantial basis for such work.
>
> Industrial arts activities in these grades are important also because of the strong natural desire in young people to be active. The course should provide: first, activity and information for a well-rounded education; and second, a background. The shop should be a place where pupils create those articles which they have wanted to make and which they could not because the home provided no opportunity. The program should include methods of cooperation and the wise use and the care of hand tools. It should include interesting related information. Projects might include toys, household implements and simple tools to aid in developing a home shop. The pupil should learn to like shop and to appreciate good work.[5]

Wherever suitable space, equipment, and a properly qualified teacher can be secured a program of Industrial Arts Education is recommended to precede the industrial vocational education program organized.

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[4] Quoted from galley proof of the Ohio High School Standards for 1937, pp. 2, 3.

[5] Ibid.

B. RECOMMENDATIONS FOR JUNIOR HIGH SCHOOL INDUSTRIAL ARTS IN CARTER COUNTY.

Industrial arts is recommended for Carter County to be offered in the seventh, eighth, and ninth grades and in higher grades when facilities cannot be justified in lower grades in schools.

This recommendation does not infer that industrial arts should be offered in the light of the commonly thought of definition of "industrial arts" which is woodwork and drawing, but instead, it should include metals, electricity, ceramics, cement, glass, craftwork and textiles as well as wood and drawing.

Statements that assist in backing up this recommendation are found in Chapter IV. Some of them are: J. J. Metz, writer; J. E. Williamson, board member; T. W. Welch, board member, F. H. Strelow, board member, and F. P. Roberts, superintendent of an oil company.

Industrial arts, if offered in the seventh, eighth, and ninth grades, should be followed with a general industrial program in the tenth and eleventh grades in communities that can support it.

C. RECOMMENDATIONS FOR SENIOR HIGH SCHOOL GENERAL INDUSTRIAL PROGRAMS IN CARTER COUNTY.

This study reveals that the majority of workers in the county are employed in the petroleum industry, (see Table IV). The general industrial school is best suited for petroleum industrial communities, (10-11 grades). See recommendations

of: Frederick J. Moffit, Chapter IV; J. B. Averyt, (school board member, Chapter IV); H. B. Lamb, (superintendent of oil company, Chapter IV).

This type of program is organized to prepare youth for the varied employment necessary in industrial situations in Carter County.

The industrial work found in employment opportunities of Carter County which should be included in a general industrial program includes:

General Woodwork Courses Teaching:

- Carpentry
- Concrete form building
- Building plan reading

General Metal Work

- Welding
- Pipe fitting
- Machine shop work
- Forging

Electrical work

Internal Combustion Engine Work

Printing

Salesmanship

A part of the above program can be added to any of the schools in Carter County that were surveyed.

D. RECOMMENDATIONS FOR SENIOR HIGH PART-TIME COOPERATIVE SCHOOLS.

Many of the occupations listed in Table IV could be included in a part-time cooperative school. Some of these are: variety store sales, sheet metal work, plumbing, machine shop work, grocery store sales, garage work, farming, drug store sales, cleaning plant work.

I. The purpose of a part-time program as quoted from P. T. McHenry[6] District Coordinator, is:

> Part-time Cooperative Apprentice Training in Diversified Occupations is the name applied to a recently developed program of Trade and Industrial Education. It is designed primarily for the small community where one may expect to find people engaged in a number of different occupations such as merchandising, carpentry, banking, commerce, plumbing, automotives, printing, cleaning and pressing, etc. Its purpose is to fit the boys and girls of that community into industrial and commercial activities on a sound organized basis of vocational training which will help them prepare for employment in carious gainful occupations.
>
> In practically every small community there are a number of desirable occupations for which new workers are needed each year. The number of workers needed in any one line is so small, however, that the schools are usually not justified in stablishing a definite training course for each type of work. The local employers prefer to employ, and do employ, whenever possible, local boys and girls, but they feel the need for some plan of education which will help these young people prepare for the work that is to be done. Since it is not possible to set up special training courses for each local occupation, a plan has been devised whereby young people may be given some training in a single group for a number of different occupations.
>
> A diversified occupations program is a cooperative arrangement between the high school and the commercial

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[6]Handbook for Coordinators, State Board for Vocational Education, Little Rock, Arkansas, April, 1937.

and industrial enterprises of the community. By making use of the facilities of the business firms of the town, high school pupils are given an opportunity to learn the manipulative skills under actual working conditions. The schools furnish a qualified teacher or coordinator who supervises the pupil in his study of related technical information, and fosters the development of job judgment by correlating the pupil's school and work experiences.

II. General Aims of the Program.

The aims of the diversified occupations program include:

1. The establishment of a form of training which will prepare for, secure, and promote advancement in a gainful occupation.

2. Building habits of work, knowledge of working conditions, experience in getting along with other workers, and skills and related information which boys and girls can rightfully expect to exchange for a wage.

3. Providing, through public education, a training that gives information, guidance and actual experience to boys and girls before they enter full-time employment.

4. The provision for public occupational training at a minimum cost to the community.

5. Giving all classes of students an opportunity for occupational training.

6. Helping to meet the problem of preventing students dropping out of school.

7. Offering the advantages of training for a job on a real job under real working conditions.

8. Providing a program which will permit students to train more effectively for jobs of their own selection which they would in many cases enter at a handicap after dropping out or graduating from non-specific courses.

9. Providing a program which will permit employers to select employees from a group of trained prospects rather than "picking up employees from the street".

10. Providing a program which, because of its flexibility, can be made to control the present

practices of continued training in overcrowded fields.

11. Providing a program which keeps many young people on home-town jobs.

12. Making provision for better social and economic adjustment of young people and thus raise the standard of citizenship.

13. Giving the student a specific trade training and at the same time permitting high school graduation and college entrance.

III. Advantages of the Program.

A. To the Student.

1. Offers an opportunity for boys and girls of small towns to receive training that formerly was available only in large cities.

2. Helps them choose suitable occupations.

3. Provides training on real jobs under actual working conditions.

4. They secure information related to occupations at the proper time.

5. Provides an opportunity for them to grow in a selected occupation.

6. They learn a job while attending school.

7. Encourages some students, who are not interested in straight academic work, to remain in school.

8. Provides training in some job or occupation for those who can complete high school, but who can not go to college.

9. Opportunity to enter and learn an occupation at an early age.

10. Opportunity to learn by doing on productive or commercial work.

11. Arouses student's interest that might lie dormant otherwise.

12. Student sees the need for organized vocational training.

13. Student secures a good course in vocational training.

14. Provides opportunity to receive individual instruction.

15. Provides for first hand information on a job as contrasted to an artificial situation.

16. Provides for and develops new attitudes toward responsibilities.

17. Helps establish correct work habits.

18. Emphasizes necessity of cooperation with other workers.

19. Opens fields of employment to young workers.

20. Does not prevent college entrance on finishing high school.

B. To the School.

1. Offers a vocational program for schools in small towns and communities.

2. Keeps boys and girls in school longer.

3. Broadens the high school curriculum.

4. Offers economy in plant equipment and operation.

5. Makes the business and industrial establishments of the city laboratories for training young people under school supervision.

6. Provides an excellent opportunity to teach apprenticeship.

7. Provides an opportunity for school to cooperate with business and industry.

8. Relieves over-crowded class conditions in other subjects.

9. An opportunity is offered to render a real service in guidance.

10. Provides an opportunity for the school to give more functional subject matter.

11. Provides an opportunity for the school to cooperate with business in training workers.

C. To the Employer.

1. Offers an opportunity to secure and train desired type of worker.
2. Reduces training costs.
3. The school teaches the necessary technical information.
4. Opportunity to obtain employees who understand proper employee and employer relationships.
5. Provides workers who are interested in learning a job.
6. Provides high school graduates as employees.
7. Provides employer with the privilege of changing any students if they prove unsatisfactory.
8. Provides an opportunity to expand business through better trained workers.
9. Furnishes more contented workers.
10. Trained workers are more likely to stay on the job.
11. Furnishes material for leaders in the industry.
12. An opportunity to select student for specific job.

D. To the Community.

1. Makes better and more useful citizens because of supervised and superior training at an early age.
2. People more content when properly trained for their work.
3. Less loafing and street walking by the young people.
4. Students stay in school longer.
5. Fewer juvenile court problems.
6. Moral and social conditions improved.
7. Fewer social service problems.
8. Makes for better community leaders.
9. All classes of students have the same opportunity.

10. Keeps home boys in home town jobs.

IV. Plan of Operation.

A. General Statement.

This plan of training is a cooperative arrangement between the school and business and industrial concerns of the community. Students enrolled in the course are considered apprentices and will pursue a training program which will provide instruction in school as well as practical experiences in a chosen occupation. While the apprentices are employed they will be under the supervision of the school as well as that of the employers.

To be considered as employed, and eligible for admission to part-time classes, the pupil must work regularly at a job throughout the school year, and during vacations, if possible. The working time, which must equal or exceed the time spent in school classes, must amount to at least 20 hours each week, and a part of this time should be time which would otherwise be given to school work. It is only the pupil who gives up a part of the day school and is regularly employed during that time who can be properly considered as a part-time pupil. One half day will be spent in school. Two full periods of the school time shall be devoted to the study of related and technical subjects pertinent to the job in which the students are engaged. The remainder of the time may be used to pursue regular high school subjects. By this arrangement high school graduation is possible.

B. Entrance Requirements.

Boys and girls desiring to enroll in the course must be over sixteen years of age and must have completed at least two years of high school work. They shall have at least a minimum amount of study and counsel concerning the requirements and opportunities in the occupation they desire to enter. Applicants must have the full consent of their parents, and both the parents and the students must understand clearly that the major objective is not that of affording an opportunity to secure a job in which they may expect immediate financial returns. Employer and school authorities shall be satisfied that the applicant is mentally and physically fit to pursue the training in the chosen occupation.

This course is also open to young people who have left the regular school and wish to return for this type of training.

C. Local Advisory Committee.

The effectiveness of a program will be in direct proportion to the Coordinator's ability to correlate all helpful agencies in the community. There is no better way known for getting cooperation and support for a job training program under public school supervision than to appoint advisory committees: thus bringing into the service of the school the intelligent advice, interest, influence, and standing of the strongest and most influential people of the locality.

This committee whose duties shall be to advise, counsel and promote the general activities of the program, should be composed of representatives of employers and employees in the community. Leaders from civic clubs and social organizations should be members. In some cases it may be advisable to organize additional advisory committees representing specific occupations. The committees shall be appointed by the superintendent of the school with the advice and counsel of the coordinator.

D. Length of Course.

The length of the course varies with the occupations for which training is given. In all cases the minimum length is 2 years. Two thousand clock hours of combined school and work experiences are necessary for graduation. During this two-year period at least 20 hours each week must be spent in the occupation and at least 10 hours per week in school in related and technical instruction. The remainder of the time may be spent in pursuing regular high school subjects. Provision should be made for those completing the two years course to secure additional instruction in evening or special part-time trade extension classes.

E. Probationary Period.

With the approval of the employer, the apprentice may be allowed a probationary period of 6 weeks for all occupations of 2,000 clock hours and 3 months for occupations requiring more than 2,000 clock hours of training.

F. Employment Status.

The student, to be considered an apprentice, is required to go into a place of business, office, shop or industrial plant, for the purpose of learning that business, trade or occupation. The hours spent in training in the occupation are considered the same as those spent in the school laboratory for which the

student is given credit toward high school graduation. This gives the school an opportunity to train young workers in occupations commonly found in the community requiring 2,000 hours, or more, of combined work experiences and related instruction.

The apprentice while gaining occupational experience is under the joint supervision of the school and the training agency, the school providing a coordinator to assist in the fulfillment of the responsibility each has accepted under the plan.

The apprentice while in training will have the status of a non-competitive worker, neither displacing a worker now employed nor substituting for a worker needed by the employer. The student as an apprentice must receive some monetary compensation while employed.

Employers should cooperate in fulfilling a social duty and not capitalize on the students' earning power. The student should progress from one work job to another and at the end of his training period have had some experience in all phases of the occupation. There might be a tendency to keep a student on one operation because his efficiency increases with time and a change to a new operation would allow little carryover. Undue delays should be avoided. The steps of learning are used to illustrate that training is proposed to raise the trainee to the place where he is not an expert but familiar enough with the job to continue his improvement through repetitive exercises.

Initiative (Develop new methods and processes)

Resourcefulness (Acquires ability to adapt to new uses)

Doing (Learns how to use)

Appreciation (Learns why use is made of teaching material)

Information (Learns tools or material to be used)

Beginning (No knowledge, information or skill)

The trainee is carried through each step until he can be relied upon to produce with safety and little waste. Then, abandoning, for the time being, further improvement on the job, he is transferred to another job and some experience and training given here until

able to perform fairly efficiently, and progressed again. Incidental practice will keep him familiar with former training experiences.

G. School Status.

Under this plan of work two distinct types of training should be provided:

1. General training for employment, regardless of the special occupation. Under this type may be included a study of those general subjects which are of importance in all kinds of employment, such as value of time, promptness, meeting and getting along with people, applying for and getting started on a job, occupational environment, records and reports, personal hygiene and appearance, and duty to employers. All pupils who are employed, whatever the work which they may be doing, will profit by this training, and all can be handled in one class. For at least one regular school period per day this group will be under the instruction of the coordinator, who will be thoroughly acquainted with the work of each pupil.

2. The specific training for the various occupations should be organized on an individual basis. The coordinator, with the assistance of the employers, should prepare an outline or analysis of each occupation in which pupils are employed. This analysis should show the various kinds of work on which the pupil is to be placed, and indicate the specific vocational training which will be needed. This training is to be arranged for by the coordinator in the way that will be most effective. It is not expected that the coordinator will be qualified to teach all of the work. In many cases he will not be able to teach any of it, but he should in all cases be able to arrange to have the required teaching provided. In some instances the special training needed may be given in a regular high school class, supplemented by some special help from the regular class teacher. For example, a boy who is employed in a garage may be able to secure the training which he needs in an auto mechanics class, or a girl who is employed in an office may be placed in high school commercial class. In some cases where several pupils are all in need of the same kind of training, a special class may be organized to meet their needs. In many occupations the specific training needed may best be given on the job by the employer. Frequently there will be a combination of these plans, and the coordinator will make such arrangements as may be necessary to insure a definite training plan to meet each pupil's particular need.

"A Suggested Schedule for a Student in Training For The Retail Grocery Business

11th Grade

Classification	Subject	Hrs. Per Week	No. of Wks.	Unit of Credit	Taught by
1. Required High School Subject	Eng. III	5	36	1	Eng. Dept.
2. Related (Constant)	Occupational Problems	10	36	1	Coordinator
3.*Related (Variable) or High School (Variable)		5	36	1	Regular High School Teacher
4. Occupational Training	Retail Grocery	20	36	1	Employer

12th Grade

1. High School Required	Am. Hist.	5	36	1	Hist. Dept.
2. Related (Constant)	Adv. Occupational Problems	10	36	1	Coordinator
3.*Related (Variable) or High School (Variable)		5	36	1	Regular High School Teacher
4. Occupational Training	Retail Grocery	20	36	1	Employer

*The student may select, with the advice and consent of the coordinator, subjects from the following list: Bookkeeping, Salesmanship, Commercial Law, Commercial Art, Business English, Business Math., or Science taught by regular high school teachers."

A TYPE OF PROGRAM SUITED TO CARTER COUNTY

In referring to Chapter IV, Table IV, we find that the employment possibilities lie in the fields of oil production, service stations, grocery stores, cafes, gasoline products, dry goods stores, farming offices, machine shops, and pipe lines.

Many of the students or graduates employed in the above occupations have not had any training relative to their job. It becomes necessary to suggest a type of program for such people in order that industry and business may progress in Carter County and be able to show a marked improvement in trained employees.

Young people over 16 years of age selected from lists of high school students who have completed the general courses and are unemployed must be visited. The chief interest of each young person is determined through interviews. Conferences must then be held with the business men who are willing to take young people into their establishments for training for a four-hour period per day. The placement of these young people is on the basis of an agreement entered into by the student, parent, school and business man. The course of training must be planned so that the student is rotated through the several departments or shifted from one duty to another so that experience is gained in every phase of the business. The half-day spent in the school is given over to technical instruction related to the student's work; and to subjects needed for high school graduation.

Suggestive Courses for Part Time Cooperative Apprentices in Carter County

Cabinet Making.
Electric Wiring, Inside.
Machine Shop Practice.
Mathematics for Carpenters.
Mathematics for Machinists.
Mathematics for Plumbers.
Painting and Decorating.
Plumbing.
Automobile Mechanics-
    Ignition, Starting and Lighting, Battery, etc.
Oxy-Acetylene Welding.
Sheet Metal Drafting.
General Drawing (For Building Trades).
Sign Painting.
Printing.
Cost Accounting and Estimating for Printers.
Hospital Training for Student Nurses-
    Dietetics, Pediatrics, Chemistry, Obstetrics, Gynecology, Anatomy, Physiology, Bacteriology, History of Nursing, Ethics, etc.
Architectural Drawing.
Cost Estimating for Building Trades.
Industrial Chemistry.
General Continuation-
    Mathematics, English, Spelling, etc.
Janitorial Course-
    For School Janitors.
Waiters and Waitresses.
Maids.
Chemistry (Refineries).
Economics (Oil Refineries).
Beauty Culture.
Cotton Mill Calculations.
Tailor's Helpers.
Carpentry-
    Blue Print Reading, Steel Square, Roof Framing.
Color Mixing (Painters).
Paper Hanging.
Dressmaking.
Millinery.
Power Machine Operation.

A Suggestive Schedule of Courses in

Part-time Apprentice Training

Subject	Classification	Credits
Shop	High School	
General	(Related)	1
Planing	Occupational	1
Blue Prints	Occupational	1
Drawing		
General	High School (Related)	1
Architectural	High School (Related)	1
Mathematics	High School (Required)	2
Accounting	High School (Related)	1
Economics	High School (Related)	1
Printing	Occupational	1
Metal Works		
Welding	Occupational	1
Pipe Fitting	Occupational	1
Machine Shop	Occupational	1
Forge	Occupational	1
Chemistry	High School (Related)	1
English	High School (Required)	2
Home Economics	High School (Related)	2
Business English	High School (Related)	1
Business Math.	High School (Related)	1
Spelling	High School (Related)	1

Considerable study, attention, and work should be required to secure materials and develop the instructional materials needed to teach the technical information needed in each occupation, in which a student is placed. To allow a coordinator sufficient time to develop these aids, he should not have too many students under his supervision until he is in a position to care for all satisfactorily.

E. RECOMMENDATIONS FOR PART-TIME POST GRADUATE APPRENTICE PROGRAMS (County Wide)

Some of the occupations listed in Table IV which lend themselves to apprentice training are: Cabinet work, carpentry, blacksmithing, beauty shop, garages, jewelry stores, laundries, machine shops, planing mills, painting, plumbing, sheet metal, and shoe shops.

Oklahoma's Proposed Plan for Apprentice Training for 1937 is:

General Statement.

> Under authority granted by Executive Order 6750-C and Executive Order No. 7076 and general regulations No. 1, of the Secretary of Labor, the Oklahoma Committee on Apprentice Training adopts the following plan for establishing apprentice programs in the State of Oklahoma for the primary purpose of providing education and training for the apprentice.
>
> The Oklahoma Committee on Apprentice Training desires to cooperate with other states and with the Federal Committee on Apprentice Training in raising uniformily the standards of competition of skilled workers and, therefore, resolves to be guided by all rules and regulations issued by the Secretary of Labor concerning apprentice training.
>
> I. The personnel of the State Committee.
>
> II. The responsibilities assumed by the State Committee.
>
> III. The general policies to be followed in meeting the responsibilities assumed by the Committee.

I. <u>Personnel</u>.

> The members of the State Committee on Apprentice Training are as follows:
>
> E. G. Burke, Representing the U. S. Employment Service, Chairman of the Committee

L. K. Covelle, Representing the State Department of Vocational Education, Secretary of the Committee

W. A. Pat Murphy, Representing the State Department of Labor

R. F. J. Williams, Representing the Oklahoma Associated Industries

Raburn H. Smiser, Representing the Association of General Contractors of Oklahoma

V. V. Van Tilburg, Tulsa Trades and Labor Council, 215 North Boulder Street, Tulsa, Oklahoma

A. K. Webb, Painter, Representing Employees in the Building Trades

Houston A. Wright, State Director of National Youth Administration Program

II. The Responsibilities Assumed by the State Committee on Apprentice Training

The State Committee assumes responsibility or the delegation of responsibility for the following items:

A. Define apprentice
B. Define employer
C. Setting up local and state trades or industry advisory committees and the final approval of their membership
D. Registering of Apprentices
E. Approving apprentice contracts
F. Organizing, administering, cooperating with educational authorities in the training program.
G. Supervising apprentices while employed
H. Issuing diplomas or certificates on satisfactory completion of training
I. Cancelling contracts

III. The General Policies to be Followed in Regard to this Assignment of Responsibilities are as Follows:

A. The Term Apprentice shall mean a person at least 16 years of age who has entered into a written agreement (indenture) with an employer, an organization of employees, or other responsible agency, which agreement provides for not less than 2,000 hours of reasonable continuous employment for such person and for his participation in an approved program of training in skills and

related technical and general subjects, provided, however, this will not conflict with any going program of apprentice training within the state.

B. Employer Defined. An employer is a man who hires at least one journeyman on each job and who has been in business a reasonable length of time and demonstrates to the State Committee that he is eligible to indenture an apprentice.

C. Setting up Local and State Trades or Industry Advisory Committees and Their Final Approval of Their Membership.

D. Registering Apprentices. Registration of apprentices shall be the responsibility of the secretary of the State Committee in cooperation with the Oklahoma State Employment Service Affiliated with the U. S. Employment Service, and the National Re-employment Service. Official files for such registration shall be maintained by the Secretary of the State Committee. Standard apprentice application blanks shall also be kept by the Secretary of the State Committee.

E. Approving Apprentice Contracts. Before any contract for apprentice training shall be approved by this committee, it must first be approved by sub-committee composed of representatives of the following:

1. Vocational Educational Department.
2. Employees and employers of the trade in which the apprentice is to be indentured.
3. Apprentice contracts will be issued by the State Department of Labor after approval by the State Committee.

F. Organizing, Administering, Cooperating with Educational Authorities in the Training Program. In as much as the training of apprentices is a part of the Trade and Industrial Program being conducted in Oklahoma under the state plan for Vocational Education, Trade and Industrial Department will use the services of the local supervisors and coordinators promoting, organizing, conducting, and coordinating the local program with the State Committees on apprentice training.

G. Supervising Apprentices While Employed. After the apprentice has entered training, the local advisory committee in cooperation with the local supervisor of vocational education, shall represent the State Committee on Apprentice Training, for the purpose of seeing that the apprentice is receiving the kinds and amount of work experience specified in the contract. The local public school authorities working with the State Division of Trade and Industrial Education will cooperate with the employer for the purpose of providing instruction in the related and technical subjects specified in the contract. All state agencies will work in close harmony with the local trade or industry advisory committee.

H. Issuing Diplomas or Certificates on Satisfactory Completion of Training. Suitable diplomas or certificates will be issued by the State Committee on Apprentice Training in cooperation with the Vocational Education Department to all graduates who satisfactorily complete their apprenticeship. Those diplomas or certificates will state the terms of the indenture.

I. Cancelling Contracts. Conditions under which contracts may be cancelled: A contract may be cancelled only by the majority vote of the State Committee on proof of violation of apprentice agreement, (either by apprentice or employer), and or other causes which in the opinion of the State Committee justifies cancellation.

IV. The Contract Shall Specify

A. The name of trade.

B. The length of the apprenticeship, together with the probationary period. The period of apprenticeship to be not less than 2,000 hours of reasonable continuous employment and instruction. The length of the probationary period will be based upon the time necessary to learn the trade six weeks for each year of apprenticeship, providing that no probationary period shall be more than three months.

C. The schedule of training and instruction based upon analyses of the trade, each contract shall contain a schedule of processes of the trade in which the apprentice shall receive thorough training. School instruction shall be designed

to meet the needs of the apprentice and shall comply with the minimum requirements of the State Board of Vocational Education for a specific type of work. The instruction shall consist of not less than 144 hours per year devoted to group instruction in related and technical subjects.

D. The Percentage of Journeyman's Pay Which Apprentice is to Receive. This will necessarily vary with the different trades. The beginning wage shall be not less than 25% of the basic wage rate prevailing for journeymen in the trade and in the locality where the training is received, determined by the State Committee on Apprentice Training on the recommendation from the local trade or industry advisory committee. The wage rate shall be increased periodically at intervals of not over six months and to average over the entire apprentice period of at least 50% of the basic wage of the journeyman.

V. The Apprentice May be Indentured to:

A. An employer.

B. An association of employers.

C. An organization of employees.
The individual employer is responsible for fulfilling the agreement of the association of employers, the organization of employees while the apprentice is under his supervision.

VI. Number of Copies of Contract.

A. Original for the employer, association or organization.

B. First copy for apprentice.

C. Second copy for the issuing office.

D. Third copy for Federal Committee on Apprentice Training.

E. Fourth copy for the State Board of Vocational Education. The Committee will use the forms as furnished or recommended by the Federal Committee on Apprentice Training when possible.

F. Fifth copy for Labor Organizations.

VII. In the School. The division of Vocational Education in cooperation with local public school authorities will provide for the organization, administration, and operation of the apprentice training programs in the various communities in the State when conforming to provisions of the state plan for Vocational Education and the standards prescribed by the state apprenticeship committees for the operation of apprentice training in the State of Oklahoma. The local supervisor or coordinator of Vocational Education shall report any violations of the instructional provisions of the apprentice contract, (on the part of the apprentice), to the employer, association or organization to which the apprentice is indentured.

VIII. Advisory Committees.

A. State Trade or Industry Advisory Committees for each trade in which there is an apprentice program, shall be organized where more than two local committees have been established. The committees are to be made up of five members, two of whom are employers nominated by employers' organizations, two are employees nominated by bona fide labor organizations, and one is a vocational instructor in the trade or industry, where no representative organization of employers or employees exists, the Oklahoma State Committee on Apprentice Training may appoint the members directly. These committees will be requested to advise with and make recommendations to the state committee on apprentice training relative to such matters as:

1. A uniform contract form to be used for all apprentices in that trade in conformity with provisions stated under III-A.
2. The prevailing average rate for journeymen in this trade in the community where this training is to be given.
3. Work in an advisory capacity with school authorities in regard to manipulative and related training of apprentices.
4. Assist in the selection of apprentices for that trade.
5. Hear grievances of apprentices or employers in case of disputes.
6. Make recommendations in regard to the future opportunity for the absorption of apprentice graduates.

7. Make recommendations for the good of apprentices.

B. Local Trade or Industry Advisory Committees.

1. A local trade or industry advisory committee shall be established in any community where more than two apprentices are engaged in any occupation in one locality.
2. Membership constituted similar to the State Advisory Committee.
3. Functions making recommendations on whether or not past training record of the employer seeking apprentices justifies the approving of apprentice agreements. Cooperating with the State Committee on Apprentice Training in handling local questions, such as, the selection of the number of apprentices, required in a trade, the plan of instruction, the operations or processes which apprentices are to learn, the determining of the rate of pay of the apprentices based on the prevailing rate for journeymen, and hearing of grievances of either apprentices or employers.

The local committee shall approve or disapprove all apprentice contracts before submitting to the State Committee for final approval.

C. Cooperation with Existing Organizations.

The State Committee on Apprentice Training will cooperate with such organizations as: National Youth Administration, the State Federation of Labor, Central Labor Bodies, Association of General Contractors, Trade Associations, Manufacturers Associations, Public Schools and other business organizations in the State which will promote an efficient and effective apprentice training program.

IX. Special Provisions.

A. Special provision for indenturing apprentices twenty-one to twenty-five years of age who have been following the trade six months to one year is hereby made, requiring such apprentices to be recommended by the craft in which they are employed, and approved by the local advisory committee.

B. That the apprentice be brought before the trade committee each six months for examination before given his increase in pay.

C. Standard form for apprentice application.

D. Provisions for bonus.

In Carter County the need for a part-time post graduate apprentice program is very apparent. Boys and girls out of high school sometimes go back to high school and take subjects that they did not have time to take while in school, so they might get a job. If this program were introduced, these students would have a chance to take something that would really prepare them for a good position.

At the same time these students could get training while preparing for it through the school program as set up by the coordinator or state supervisor.

The best time to introduce this program seems to be at the time other types of programs are set up in the regular curriculum. By combining with the regular curriculum the coordinator can cooperate with related subjects teachers in organizing a desirable educational and industrial program for the unprepared postgraduates.

F. RECOMMENDATIONS FOR EVENING CLASSES IN CARTER COUNTY

The function of an evening school program is well defined as:

> An evening industrial school or class established under the national act is a public school or class established and maintained in any community for the purpose of giving instruction of less than college grade in a particular trade supplemented to the daily employment, to persons over 16 years of age who have entered

upon employment in that trade or industrial pursuit.[7]

Employees of the petroleum industry in Carter County account for the greatest number of workers that could profit by instruction in evening classes. The occupations listed in Table IV that are connected with the petroleum industry and for which an evening school trade extension program is needed are shown below:

Occupation	Number Employed
Oil Production	700
Oil Rig Company	24
Oil Field Supply	13
Pipe Line (Gas)	75
Pipe Line (Oil)	115
Gasoline Production	144

Other occupations that are closely related to the petroleum industry and for which an evening school program might profitably be provided are shown in Table IV and include:

Occupation	Number Employed
Machine Shop	122
Sheet Metal Shop	52
Service Stations	178
Gas Companies	47

The need for evening vocational training classes is well stated in the petroleum industry series.[8]

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[7]Trade and Industrial Education Bulletin No. 17, p. 20

[8]Trade and Industrial Series, 1938, Bulletin No. 3.

Employees in the petroleum industry are conscious of the vast changes that have taken place and which are still taking place. New methods have been adopted in the technique of their application and it has greatly improved. Standards of workmanship have been raised and the individual finds that his skills must be increased to keep pace with the progress. This requires an earnest application of the talents of the individual in furthering his education to keep abreast of these ever changing conditions.

Oil field workers today realize the personal expense of injuries resulting from accidents. They also realize that accidents which may cause injury to the workmen are the results of a mistake usually due to lack of understanding of some phase of the job. The purpose of vocational trainihg courses is to bring about a better understanding and appreciation of the work to be done.

The man who does not grow with his job will eventually find his fellow workers gradually surpassing him.

If the employee was not fortunate enough to obtain sufficient education in his youth he must in some manner learn the fundamentals of mathematics and science in order to take advantage of more technical subjects offered through this vocational training program. Men in industry have been given jobs of calculating, for example, the volume of a tank. Many of these men report the level of the liquid in the tank in feet and inches and find it is necessary to secure the assistance of someone else to figure the actual volume because they have failed to learn the fundamentals of mathematics necessary to figure the volume.

With the rapid advancement of industry men are required to use their brain more than their back which was a custom a few years ago. With the advancement of machinery must also come the advancement of mental efficiency of men on the job. The advancement of mental efficiency has not kept pace with the advancement of machinery. It is with these facts in mind that the vocational program for the petroleum industry was developed.

In 1917 the Federal Government recognized a national demand for technical education of adult workers and provided legislative measures for the promotion of vocational education which are supplemented on a fifty per cent basis by local funds in the furthering of education for men in industry.

For other details concerning state regulations pertaining to the operation of an evening school program for petroleum industrial employees see Appendix page 5.

G. RECOMMENDATIONS FOR A VOCATIONAL INDUSTRIAL EDUCATION PROGRAM IN THE LARGEST SCHOOL IN THE COUNTY

Table IV lists in Ardmore, the town with the largest school in the county, several occupations that indicate training possibilities in an industrial education program. Some of those listed are:

Occupations	Number Employed
Baking	37
Hotel Service	45
Garages	45
Plumbing	18
Machine Shops	25
Cleaning and Dyeing	26
Grocery	35
Telegraph Operators	3
Radio Service	4
Jewelry and Watch Repair	17
Building Trades	45
Printing	16
Cotton Oil Mill	45
Cotton Compress	21
Banking	32
Office Practices	110
Shoe Repairing	18

There are others not included in this report that would fall in this category.

With the diversity of occupations found in Ardmore, the part-time training program in diversified occupations is suggested with students placed in those occupations affording the best employment learning and future opportunities for the youth of the community. This type program is explained in "C" in this chapter.

RECOMMENDATIONS FOR A GENERAL INDUSTRIAL EDUCATION PROGRAM SUITABLE FOR ONE SMALL SCHOOL IN THE COUNTY

A general industrial program is recommended for Healdton because it is a town of approximately 2,200 population and has business and industries that lend themselves to such a program. The occupations of Healdton that might make it possible for a vocational educational program to be organized with profit include:

Occupations	Number Employed
Gasoline Production	20
Oil Production	200
Oil Field Supply	8
Oil Rig Construction	24
Pipe Line (Gas)	12
Pipe Line (Oil)	30
Sheet Metal Work	15

The general industrial program, explained in "B" in this chapter, is recommended as the most serviceable for youth in this community to lay the foundations for employment in the above occupations.

The extent of such a program depends upon the amount of funds available. This particular school has the necessary funds for this type of program with the help of the state department. It would be a profitable enterprise to maintain a separate vocational school in this district since so many of the boys and girls do not have the privilege of going to college, and since many of them would rather have an industrial training such as the ones outlined in other parts of this chapter. Total available funds and the need for this educational program would largely determine the program that should be provided.

RECOMMENDATIONS FOR FURTHER STUDY

If the $35,000,000 road building program passed by the state legislature in 1937 becomes a reality, there will be more opportunities of consolidating schools throughout the county. One objection to consolidation at the present is the condition of the roads in some districts.

The writer recommends that interested parties make a study of future consolidation, which would better the chances for providing vocational education programs in the county. Such consolidations would provide funds for equipment, less per capita cost of operation, and a possibility of securing better qualified instructors.

The writer also recommends that this study be carried further to include the other seven high schools in the county not included in this report.

It is recommended that school board members and school superintendents, who are interested in adding vocational industrial education to their present school programs, should get information about setting up such a program from the State Supervisor of Trade and Industrial Education, or A. and M. College Trade and Industrial Education Department.

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BIBLIOGRAPHY

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APPENDIX

Wilson, Okla.
June 10, 1937

Dear Superintendent:

In meeting one of the requirements for a Master of Science degree at Oklahoma A. and M. College, I have elected to have the following questionnaire answered. Ardmore, Healdton, Dundee, Wilson and Graham have already responded.

It will require a few minutes of your time to fill it out and possibly some of the questions will be difficult to answer; however, it will be a great favor to me. I assure you that I shall be very grateful to you and shall endeavor to return the favor.

Very truly yours,

Bill McCalib

High School_____ Superintendent_____
Number of high school teachers employed_____
Enumeration of high school students in the district_____
Number of high school students enrolled in 1936-37_____
Number of freshmen enrolled in 1932___, 1933___, 1934_____, 1935_____, 1936_____, 1937_____.

Number of juniors in 1937_____, number of sophomores in 1937___.
Curriculum offered in high school at present_____

Number of high school graduates who have entered business and industry and the types entered_____

Number of graduates of the past five years who have gone to college_____

Opinion concerning possibilities for vocational education in the county_____

VOCATIONAL EDUCATION STUDY

In an attempt to determine needed improvements in the secondary school education program in Carter County, the writer needs your cooperation and assistance.

Will you, as a representative employer of young people, please answer the following questions? Similar information is being secured from industrialists, agriculturalists, and business men which will be brought together in summar suggestions. These suggestions will then be studied and incorporated in a stronger educational program as soon as possible.

Name_____ Address_____

Position_____
Number of employees: Men_____ Women_____

Payroll jobs under your direction: Number engaged in each: Number employed

JOB	MALE	FEMALE
a.		
b.		
c.		
d.		
e.		
f.		
g.		

Duties of employee per payroll job:

a._____
b._____
c._____
d._____
e._____
f._____
g._____

Average education per job:

a._____
b._____
c._____
d._____
e._____
f._____
g._____
h._____

Personality requirements per payroll job:

a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____

Education preferred for employees per payroll job:

	Amount			Kind	
	Elementary School	High School	College	General	Vocational
a.					
b.					
c.					
d.					
e.					
f.					
g.					

Special information to be stressed to prospective employees before they leave school:

a. Employment needs
   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____

b. General citizenship needs
   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____

c. Other needs
   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____
   7. _____

VOCATIONAL EDUCATION STUDY

In an attempt to determine needed improvements in the secondary school education program in Carter County, the writer needs your cooperation and assistance.

Will you, as a representative school board member of Carter County, please answer the following questions?

Information, the results of which will be explained to you by the writer, has been gathered from superintendents, business men, industrialists, and agriculturalists concerning the types of vocational education needed in the county.

The above mentioned information together with that being gathered from board members, will be incorporated into a stronger educational program as soon as possible.

Name_____ Address_____

High School_____

Position on school board_____

Number of year's experience on board_____

After having the results of the previous work explained to you by the writer, do you think there is a need for vocational education in your school?____

The George-Dean Act, explained by the writer, will provide for a broader vocational educational program. If your superintendent thinks it possible to put on vocational work in your school system without too much additional expense to the local district, would you do your part to make the program a success?____

After having the set-up explained, what comment do you care to make concerning the program?_____

REGULATIONS PERTAINING TO EVENING INDUSTRIAL CLASSES FOR THE PETROLEUM INDUSTRY

ORGANIZATION OF CLASSES

The stipulation of the law makes it mandatory that anyone desiring to establish a class must contact the local superintendent of schools, or the local supervisor of Trade and Industrial Education, or the State Supervisor of Trade and Industrial Education or his assistants, stating the course desired and the possible number of men who might attend the class. By no means should a class be organized without a notification being sent to the Supervisor.

In the organization of the evening classes the instructor must qualify according to the regulations specified herein.

Classes may be organized at any convenient place where adequate equipment may be found and where there is sufficient heat and light and general comfortable surroundings. The class may be met at any time convenient for the majority of the group interested in such a class.

A minimum of ten men is required for the organization of a class with a maximum of twenty-five who are interested in any particular subject. It must also be remembered that the information to be taught in these classes must pertain directly to the jobs of the men in the industry. As a general rule the classes will meet two nights a week for a period of two hours for each meeting. Since they are to be held under public supervision and control, it is advisable that they be conducted during the regular school term.

The salary of the teachers is based on a minimum of $1.50 per hour. Fifty per cent of the teacher's salary will be paid from Federal funds through the Trade and Industrial Education Department of the State Board of Education. The other fifty per cent of the teacher's salary will be paid by the local school board. For example: most classes will be in session for 48 hours. The teacher's salary at $1.50 per hour will be $72.00 of which not more than $36.00 from the Federal funds will be used to reimburse the School Board for the teaching of such class. When there are ten men in the class, the tuition will be $3.00 for a 48-hour course. The ratio remains the same regardless of the number in the class; however, it must be kept in mind that the minimum number for a class is 10 and the maximum number is 25. Experience has taught us that a class of 12 to 15 is an ideal size.

The teacher must keep class records during the term of such class, showing the actual attendance of each individual. This record must be furnished along with other records of the State Department before reimbursement will be made. Other records which they must keep are Forms T, and I. 7 and 3. The local supervisor will be responsible for making all reports.

LENGTH OF COURSE

Courses are designed to cover the necessary amount of subject material for the specific subject at hand and range from 16 to 96 hours or 4 to 24 weeks.

CERTIFICATES AND CERTIFICATION FOR COMPLETION OF COURSES

Upon satisfactory completion of any one of the courses the State Department of Vocational Education will issue a certificate to the individual. This certificate will be signed by the State Superintendent of Public Instruction, State Supervisor of Trade and Industrial Education, the local Superintendent of Schools, and the instructor of the class.

The term "satisfactory completion of the course" means attendance in at least 80 per cent of the meetings and satisfactory completion of all subject material of the course. A complete record of the classes, members and amount of work completed by each man along with the certification is kept in the office of the State Supervisor of Trade and Industrial Education.

COURSES OFFERED

Following is a list of courses which may be offered to men in the petroleum industry.

BASIC TRAINING COURSES for those who have not had an opportunity to get sufficient basic grounding in arithmetic and science to pursue the more technical courses offered.

1. GENERAL REVIEW--B-1: A review course in the fundamentals of arithmetic and trade term, meanings and uses. This course is designed for those who want this review in order to reestablish themselves in the habit of studying. Length of the course, 48 clock hours.

2. ARITHMETIC APPLIED TO THE PETROLEUM INDUSTRY--B-2a: A review of the fundamentals of arithmetic followed by a study of fractions, decimals, percentage, measurements, ratio and proportion, powers and roots conversion of fractions, and calculations of practical problems found in the petroleum industry.

3. MATHEMATICS APPLIED TO THE PETROLEUM INDUSTRY--B-2b: An advanced course dealing with the solving of formulas, constructive geometry, the solving of angles, laying out cuts for pipe and boiler work, calculating areas and volumes, and the solving of such problems as are common in the mechanical division of the petroleum industry. Length of course, 48 clock hours.

4. ELEMENTARY SCIENCE APPLIED TO THE PETROLEUM INDUSTRY--B-3: Course in elementary physics and elementary chemistry covering the basic principles of these sciences, leading to more technical studies underlying maintenance and operation duties. The text is so constructed as to be readable and understandable by those having no more than a seventh grade formal education. To insure interest and effective teaching, all application of the principles taught is made to some of the different phases of the petroleum industry. Length of course, 48 clock hours.

GENERAL TRAINING COURSES

A series of training courses common to the entire petroleum industry. Since these courses are more or less technical, the student should be sure that he has a thorough grounding in the basic courses described above.

1. INTERNAL COMBUSTION ENGINES--G-1: The Care and Operation of Internal Combustion Engines is a course designed to give operators or prospective operators of internal combustion engines information which will help them to operate and maintain various types of gas, gasoline, and oil engines. In the first chapter, the principles of two and four-cycle engines are explained and constructional details are treated. Illustrations are used freely to clarify descriptions. Lubrication, ignition, cooling, installation, and repairs are covered in separate chapters. Safe practices and trouble analysis are stressed throughout. A separate chapter deals with the principle of Diesel and semi-Diesel engines. Operating problems are discussed and methods of making adjustments and repairs described. Length of course, 48 clock hours.

2. STEAM POWER--G-2: Steam power is a course dealing with the principles of construction and operating problems of all types of steam boilers, engines, and turbines used in oil production and refinery service. The care of boiler auxiliaries such as safety valves, feed water pumps, feed water regulators, injectors, blow-off valves, water heaters, and water softening apparatus is treated in detail. Slide valve, corliss valve, and uniflow engines are explained, and valve setting, lubrication, and the repair of the various types are covered. Several types of steam turbines are

illustrated and their principles of construction and operation described. A chapter is devoted to the indicator. Length of course, 48 clock hours.

3. ELECTRICITY IN THE PETROLEUM INDUSTRY--G-5: A course in elementary electricity, its principles and uses, and the application of its use in light, heat, and power in the petroleum industry. The course is not intended as a technical study, but only as a source of information to those operating electrical equipment, the purpose being to make such operators safe and more economical users of electricity. The text is constructed in the same simple manner as that in Elementary Science, but should be preceded by that course or its equivalent in High School Science. Length of course, 48 clock hours.

4. MOTOR VEHICLE DRIVING--G-9: A study of general traffic problems and the driving of motor vehicles on the highway. Such topics as use of the road, driving courtesies, leading, automobile accidents, highway signs, markers and state licenses are discussed. Length of course, 14 clock hours.

5. DRILLING PRACTICES--S-1: A study of drilling operations. Length of course, 96 clock hours.

6. PRODUCTION PRACTICES--S-2: A study of the operations involved in producing oil and gas from the completed well, the functions in each phase of production and the operation of equipment involved. Length of course, 96 clock hours.

7. NATURAL GAS PRODUCTION--S-4: A thorough study of the production, distribution and utilization of natural gas, the functions involved and the installation and operation of necessary equipment. Length of course, 96 clock hours.

OTHER COURSES TO BE PREPARED: Many other courses for the educational men in the petroleum industry will be written later but are not in a form to be used in a class recitation at the present time. As soon as these other courses are prepared this information will be published.

GENERAL COURSES: Surface Pumps, Compressors, Story of Petroleum, Oil Field Transportation, and Blueprint Reading.

SPECIAL COURSES: Construction Practices, Natural Gasoline Manufacture, Pipe Line Operation, and Petroleum Refining.

SPECIAL COURSES FOR THE REFINING DIVISION:

OPERATING
General Petroleum Refining
Elementary Petroleum Chemistry
Properties of Oil; Physical Tests and Specifications
Pumping, Gauging and Sampling
Light Oil Distillation
Pressure Distillation
The Manufacture of Lubricants
Combustion
Heat Transfer
Refrigeration

MECHANICAL
Practical Mechanics
Pipe Fitting
Welding
Instrumentation
Boiler Making
General Construction Practices

SELECTION OF TEACHERS

Experience has demonstrated that the efficiency of our evening program in the oil industry is dependent upon affording an opportunity for men from the industry to receive teacher training prior to their employment as teachers. This has been done with the majority of the teachers in the oil industry in Oklahoma. Intensive teacher training courses have been made available for any one interested in teaching evening classes. It is recommended that teachers of such classes have at least two years of experience in some phase of the petroleum industry in order that he will be able to know the application of information to be taught to the various operations in the industry.

The officials of the oil companies must be made to see how much better their employees are on the job when trained in one of these classes. Several companies have made it imperative that their men take the classes. Three companies have classes going at the present time. One company has completed the basic training courses and is ready to branch out in the general training courses.

Typed by Roberta Shirk